

APPENDIX 4

Devils Lake, North Dakota

Final Integrated Planning Report And Environmental Impact Statement

Letters of Comment on the Draft Integrated Planning Report/Environmental Impact Statement

Appendix 4 - REPORT COMMENTS

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Colonel Robert L. Ball, District Engineer
St. Paul District, Corps of Engineers
190 Fifth Street East
St. Paul, MN 55101-1638

RE: Comments on Devils Lake, North Dakota Draft Integrated
Planning Report and Environmental Impact Statement

Dear Colonel Ball:

The U.S. Environmental Protection Agency (EPA) offers comments on the U.S. Army Corps of Engineers' (Corps) Devils Lake, North Dakota Draft Integrated Planning Report and Environmental Impact Statement (hereinafter "DEIS"). EPA's review and comments are provided pursuant to our authorities and responsibilities under the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act, as well as Section 404 of the Clean Water Act. We appreciate the difficulties that are involved for all of the stakeholders in finding an appropriate resolution of the flooding risks and damages that face the communities of Devils Lake. We support the Corps' efforts to examine feasible project alternatives, and appreciate the opportunity to provide comments on the DEIS. As a cooperating agency in the NEPA process, EPA provided limited technical assistance and participated in meetings on the development of the EIS, although EPA was not given the opportunity to review preliminary drafts of the EIS prior to publication.

EPA, as part of its review process, normally provides a rating of the recommended alternative that summarizes EPA's concerns over potential environmental impacts. In this DEIS, the Corps has not yet selected a recommended plan. Consequently, EPA has rated each alternative analyzed in the DEIS. We have rated the "Preliminarily Selected Outlet Plan" alternative as "environmentally unsatisfactory" ("EU"). The basis of our rating is the significant, long-term, adverse environmental impacts from the construction of the proposed outlet and its subsequent operations. Alternatives that do not include an outlet, i.e., the "Upper Basin



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Management” and “Enhanced Infrastructure Protection,” have minimal adverse environmental impacts and thus are rated “lack of objections” (“LO”). A summary of the more critical impacts and our concerns regarding the outlet alternative are presented below.

- *Impacts to wetlands and Clean Water Act Section 404(b)(1) Guidelines Evaluation.* The DEIS predicts potential large-scale direct and indirect impacts to wetlands and riparian habitats from construction and operation of the Preliminarily Selected Outlet Plan (i.e., the DEIS anticipates up to 6,000 acres of indirect impacts to riparian lands on the Sheyenne River alone, of which approximately 2,100 acres are estimated to be wetlands). However, the Section 404(b)(1) Guidelines evaluation does not assess the effects of the operation of the outlet and its related cumulative effects, does not evaluate other potential practicable alternatives, and does not present an adequate mitigation proposal, and thus would not demonstrate compliance with Clean Water Act Section 404.

- *Impacts to water quality in the Sheyenne River and Red River.* The DEIS describes long-term and significant exceedances of North Dakota and Minnesota water quality standards for total dissolved solids (TDS) and sulfate, and does not provide any information about the potential for exceedances of standards for chlorides, salinity, specific conductance, sodium, and narrative standards for aquatic life.

- *Impacts from potential introduction of invasive species.* The DEIS does not describe how construction of an outlet would be consistent with Executive Order 13112 on Invasive Species, and does not provide sufficient information on the risks of downstream biota transfer from operation of an outlet, with or without reasonable foreseeable future actions such as a Missouri River inlet.

- *Impacts to Canadian waters.* While the DEIS suggests that an outlet alternative may have difficulty meeting the objectives and provisions of the Boundary Waters Treaty of 1909, the mechanism to address these critical issues was not clearly described.

Our NEPA review process also calls for providing a rating regarding the adequacy of the information provided in the DEIS. In this case, we have significant concerns over the adequacy of the DEIS and have rated the document as “inadequate” (“3”). We are particularly concerned over the lack of information regarding specific water quality impacts and appropriate mitigation measures, as well as the incomplete development and/or analysis of potential alternatives that do not include an outlet. In addition, we believe that the proposal to postpone a complete identification and evaluation of the environmental impacts of the outlet alternatives until after an outlet is actually constructed and operating (in supplemental NEPA documentation) is contrary to the intent of NEPA to make available environmental information to public officials and citizens before decisions are made and actions are taken. Moreover, we believe the Corps’ characterization of this postponement as “tiering” per 40 CFR 1508.28 is inaccurate and misconstrues the concept of tiering as envisioned in the Council on Environmental Quality’s regulations implementing NEPA. The issues in this case that are “ripe for decision” hinge in large part on a determination of the water quality impacts and their mitigation. This is not a case where an agency is at an “early stage” in project planning; for example, the DEIS notes that the Corps is already conducting preconstruction engineering and design efforts on the outlet

alternative in order to expedite its construction should it be selected as the recommended plan. EPA believes an assessment of the reasonably foreseeable water quality and other impacts of the outlet alternatives is essential to a reasoned choice among alternatives and must be included in this EIS. See 40 C.F.R. 1502.22. Because of the inadequate analysis provided by the DEIS, we believe it should be formally revised and made available for public comment as a revised DEIS.

While we have raised serious objections regarding project alternatives and the adequacy of the DEIS, we would like to emphasize our commitment to work with the Corps and others to complete the NEPA process and identify a project alternative that works for all stakeholders and is environmentally, economically and legally sufficient. I personally offer my commitment for EPA to continue working with the Corps and others to develop a clear resolution to the flooding problems that face the Devils Lake communities. Please note, however, that if we are unable to resolve our concerns, the matter would be a candidate for referral to the Council on Environmental Quality for resolution.

We have enclosed more detailed comments for your consideration, as well as an explanation of the EPA NEPA rating system. If you have any questions, please contact me or my staff. Dr. Gene Reetz and Brad Crowder of my staff coordinated EPA's comments. Dr. Reetz's telephone number is (303) 312-6850 and his e-mail address is reetz.gene@epa.gov. Mr. Crowder's telephone number is (303) 312-6396 and his email address is crowder.brad@epa.gov. I can be reached at (303) 312-6308 or at roberts.robby@epa.gov. I look forward to working with you to resolve our concerns.

Sincerely,

Robert E. Roberts
Regional Administrator

Enclosures: EPA's Detailed Comments on the DEIS
EPA NEPA Rating System

cc: Judith E. Ayres, Assistant Administrator, Office of International Affairs
Thomas V. Skinner, Regional Administrator, EPA Region 5

ENVIRONMENTAL PROTECTION AGENCY COMMENTS**DRAFT DEVILS LAKE, NORTH DAKOTA INTEGRATED PLANNING REPORT
AND ENVIRONMENTAL IMPACT STATEMENT****Water Quality Standards and Water Quality Analysis**

EPA has significant concerns about the effects on water quality from operation of a Devils Lake outlet. Because the water quality of Devils Lake is relatively poor for a number of key water quality parameters, removing water from Devils Lake and placing it in the Sheyenne River will adversely affect water quality in the Sheyenne and downstream in the Red River. The extent of adverse water quality effects is dependent on several factors including the duration, frequency, and timing of outlet operations. Comments in this section are organized into four categories: (1) exceedences of water quality standards, (2) National Pollutant Discharge Elimination System (NPDES) permitting, (3) water quality certification, and (4) data/information gaps.

Exceedences of Water Quality Standards

EPA has serious concerns about the potential for water quality standards to be exceeded if an outlet is constructed and operated. The data in the DEIS indicate that the most limiting downstream numeric water quality criterion is the Minnesota TDS criterion of 500 mg/L in the Red River of the North. For example, based on modeling results in Table 7 of the DEIS, the Red River TDS standard would be exceeded more frequently, under all scenarios, than the Sheyenne River sulfate standard of 450 mg/L. TDS and sulfates exceedences could impair both water supply and agricultural uses in the Red and Sheyenne Rivers, respectively. This could result in inclusion of the Red River (for TDS) and Sheyenne River (for sulfate) on the Section 303(d) list of impaired waters. Also, increased water treatment costs could be incurred due to these exceedences until a Total Maximum Daily Load is implemented. The precise, tangible nature of the use impacts is not well described, and therefore not disclosed, in the DEIS. A summary of the applicable water quality criteria and the water quality effects of the Preliminarily Selected Outlet Alternative are summarized in Table 1 of our comments (below).

The Corps should revise the DEIS to include an outlet operating plan that will assure attainment of all downstream standards. This effort would need to consider factors affecting the fate and transport of the parameters of concern (e.g., the presence of Lake Ashtabula and variable background concentrations and flows in the Red River). Additional water quality parameters are discussed below that should be considered in the DEIS, to ensure that other potentially limiting water quality criteria are identified and evaluated.

EPA is concerned about potential water quality degradation and exceedences of water quality standards related to increased erosion/sedimentation and, to a lesser degree, nutrient loading to the Sheyenne River. Specific numeric criteria have not yet been established for these parameters. We are concerned that there could be significant effects on designated uses and exceedences of narrative water quality criteria. We are especially concerned regarding the effects of increased flows in the Sheyenne River on channel shape, bank stability, sediment transport, and

**Table 1. Water Quality Effects for Selected Parameters, Pelican Lake Outlet, 300 cfs
Constrained Discharge (Preliminarily Selected Outlet Alternative)**

Parameter	ND WQS	MN WQS (Red R. WQS)	Wet Scenario	Moderate Scenario	Dry Scenario
Chlorides (mg/L)	Red River - 100 Sheyenne River - 175	860- acute AL 230- chronic AL 250- DW 100- Industrial	NO DATA	NO DATA	NO DATA
Salinity (total) (mg/L)	N/A	1000 - Livestock	NO DATA	NO DATA	NO DATA
Sodium (meq/L)	Red River - 50% of total cations Sheyenne River - 60% of total cations	60% of total cations - Irrigation	NO DATA	NO DATA	NO DATA
Specific cond. (umhos/cm)	N/A	1000 - irrigation	NO DATA	NO DATA	NO DATA
Sulfates (mg/L)	Red River - 250 Sheyenne River - 450	250 - DW	<u>@ Valley City on Sheyenne</u> Thru 2014: Median 180 mg/L (Baseline 140 mg/L) Exceeds 200 mg/L 40% of time (Baseline 1% of time)	<u>@ Valley City on Sheyenne</u> Thru 2014: Median 230 mg/L (Baseline 130 mg/L) Exceeds 300 mg/L 26% of time (0 Baseline)	<u>@ Valley City on Sheyenne</u> Thru 2014: Median 170 mg/L (Baseline 130 mg/L) Exceeds 250 mg/L 11% of time
			<u>@ Halstad-Red</u> First 10 years: 100 mg/L median, 150 mg/L rarely		
			2010 +: < 250 mg/L		
			2020 +: 125 mg/L median, >200 mg/L 11% of the time		

TDS (mg/L)	N/A	500 - DW 700 - irrigation	<p><u>@ Valley City</u> Thru 2014: Median conc. 600 mg/L (Baseline 500 mg/L)</p> <p>Exceeds 600 mg/L 48% of time (Baseline 20% of time)</p> <p><u>@ Halstad-Red</u> Present - 2020: No change in existing median, 430 mg/L Exceeds 500 mg/L 11% of time (Baseline 3%)</p> <p>Post 2020: 2020 - 2030: Exceeds 500 mg/L 20% of the time (Baseline 3%)</p>	<p><u>@ Valley City</u> Thru 2014: Median conc. 650 mg/L, annual peaks 800 to 900 mg/L (480 mg/L Baseline)</p> <p>Exceeds 800 mg/L 27% of time (Baseline 0%)</p> <p><u>@ Halstad-Red</u> Slight increase in median (current median = 420 mg/L) Exceeds 500 mg/L 18% of the time (Baseline 2%).</p>	<p><u>@ Valley City</u> Thru 2014: Median conc. 590 mg/L, annual peaks 700 to 800 mg/L (500 mg/L Baseline) Exceeds 700 mg/L 17% of time (Baseline 3%)</p>
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riparian vegetation, and how these changes in the physical condition of the river will affect aquatic life and other designated uses. To address EPA's concerns, the Corps needs to better document the expected short-term and long-term water quality effects related to erosion, sedimentation, and nutrients. These issues also should be considered to develop an outlet operating plan.

NPDES Permitting

Considering the concerns that the alternatives raise regarding compliance with water quality standards and the case law on the applicability of Clean Water Act Section 402 to water transfers, we strongly encourage the Corps to initiate early discussions with the appropriate government agency regarding potential permitting requirements under Section 402. Some court decisions on the applicability of Section 402 include Miccosukee Tribe of Indians of Florida v. S. Florida

Water Management District, ___ F.3d ___, 53 ERC 1929 (11th Cir. 2002); Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York, 273 F.3d 481, 53 ERC 1392 (2d Cir. 2001); Dubois v. USDA, 102 F.3d 1273, 43 ERC 1824 (1st Cir. 1996); and Dague v. City of Burlington, 935 F.2d 1343, 33 ERC 1559 (2d Cir. 1991), reversed in part on other grounds, 505 U.S. 557, 34 ERC 1857 (1992). See also United States Public Interest Research Group v. Atlantic Salmon of Maine, LLC, 2002 WL 242466 (D. Me. 2002) [recommendation of U.S. Magistrate].

Water Quality Certification

The Corps should initiate discussions with the State of Minnesota, as the water quality certification provisions of CWA Section 401(a)(2) allows for a State to request a public hearing if it determines that a discharge may violate any water quality requirements in that State.

Data/Information Gaps

Long-term effects on water quality need to be explained in a revised DEIS. We are concerned, for example, that the water quality effects of outlet operation would be greater beginning in the decade of the 2020's because Pelican Lake water quality is likely to be further degraded over time because of a lack of fresh inflow. The Corps needs to better address long-term effects and fully explain them. Currently, there are some data presented in the appendices, but overall the DEIS does not include a clear and prominent discussion regarding how the outlet would affect water quality over time.

The water quality analysis included in the DEIS is focused on TDS and sulfate and projected water quality levels for other key water quality parameters/criteria have not been included (e.g., chlorides, total salinity, sodium, and specific conductance). The DEIS should evaluate these other parameters. Even if exceedences are most likely for the TDS criterion applicable to the Red River of the North, fully documenting the expected effects of the action requires that other water quality criteria (even those expected to be exceeded less frequently) should be discussed in the DEIS.

Evaluation of the potential effects to aquatic life uses would be strengthened considerably by including predicted chloride concentrations, to compare to the aquatic life criteria for chloride adopted by Minnesota. The predicted levels also could be compared to North Dakota's total chlorides criterion of 175 mg/L, applicable to the Sheyenne River (Class 1a water), and 100 mg/L, applicable to the Red River of the North (Class 1 water). This information helps to determine whether the downstream numeric criteria for chloride would constrain outlet operations.

Additional information is needed to understand how exceedences of water-quality standards would affect drinking water, irrigation, and aquatic life uses. The tangible effects to drinking water, irrigation, and other uses are not well explained. In particular, it would be useful to review studies that investigated the effects of the pertinent water quality parameters on designated uses. Emphasis should be on those parameters most likely to exceed water quality standards.

Wetlands

The fill material to be discharged under the DEIS's Preliminary Selected Outlet Plan (Plan) will affect "150 acres, of which 135 acres would be in Devils Lake." (Page 404-3, Preliminary Section 404(b)(1) Evaluation, also referred to as the "Evaluation.") An approximately 6.1-mile-long open channel, a pump station, and approximately 16 miles of pipeline leading to the Sheyenne River would also be built. (Page 404-1, Evaluation.) The indirect impacts of this Plan, according to information provided in the DEIS (though this information was not used in the Section 404(b)(1) Guidelines Evaluation), are estimated to be an additional 6,000 acres of habitat, 2,100 acres of which are wetlands. The wetland areas directly impacted by fill activities range from 5 to 20 acres in size and 1 to 5 feet in depth and are described as a mix of seasonally flooded and semi-permanent wetlands, most fairly well vegetated. (Page 404-3, Evaluation.) The fill material to be discharged into Devils Lake in depths ranging from 2 to 20 feet (page 404-3, Evaluation), suggesting that there will be additional impacts to wetlands from this activity. The wetlands in the area of Devils Lake tend to be relatively shallow and flat. However, impacts to wetlands, and associated functions and values of these resources, were not fully analyzed in the DEIS or in the Section 404(b)(1) Evaluation, and thus little is known as to the potential full effects of the discharge of fill materials into these waters and what mitigation would be required to offset these impacts.

Clean Water Act Section 404(b)(1) Guidelines Evaluation

The Evaluation does not assess the effects of the operation of the outlet or its related cumulative effects, evaluate other potential practicable alternatives, or present an adequate mitigation proposal, and thus would not demonstrate compliance with CWA Section 404.

Adequacy of the Information. The Evaluation does not contain essential information needed to formulate a proper determination on compliance. In particular, the Evaluation does not include necessary information, nor does it evaluate the environmental impacts arising from the operation of the Preliminary Selected Outlet Plan as required by the Section 404(b)(1) Guidelines (hereinafter "the Guidelines") (See 40 CFR §230.12(a)(3)(iv).) The Guidelines require the evaluation of the direct impacts of a proposed project, together with the long-term direct, indirect, and cumulative effects of a discharge and those effects that do not result from the actual discharge of dredged or fill material. (40 CFR §§ 230.11(g) and 11(h).)

Alternatives Analysis. Inherent in performing an evaluation of compliance under the Guidelines is an analysis of alternatives and the determination of the least environmentally damaging practicable alternative, or LEDPA (40 CFR §230.10(a)). The Evaluation does not examine alternatives that may be practicable and that may meet the project purpose of flood protection. This failure to consider alternatives that may have a less adverse affect on waters of the United States raises concerns as to whether the LEDPA has been selected. Although the DEIS does discuss several alternatives, the Evaluation conducted here provides no such analysis specific to waters of the U.S., nor does it conclude that the Preliminary Selected Outlet Plan is the LEDPA.

The Guidelines state that, "the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines." (40 CFR §230.10(a)(4).)

However, as discussed elsewhere in our comments, the DEIS provides less information on non-outlet alternatives than that which is provided on proposals to construct an outlet. The information that was provided in the DEIS was not carried forward for evaluation under the Guidelines. The inadequacy of information provided on alternatives in the DEIS raises concerns as to whether the Preliminarily Selected Outlet Plan would qualify as the LEDPA, as required by the Guidelines.

Water Dependency. No determination has been made that the proposed project is a water-dependent activity, as defined under the Guidelines (40 CFR §230.10(a)(3)). In fact, the discussion of an upland storage alternative would indicate otherwise. The Guidelines state that "Practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise." (40 CFR §230.10(a)(3).) The DEIS has not provided this demonstration as part of the alternatives analysis. However, in order to show compliance with 40 CFR §230.10(a) of the Guidelines, it must document that the project avoids waters of the United States to the maximum extent practicable. Thus, as there were alternatives presented in the DEIS which may not discharge dredged or fill material into waters of the U.S. that were not analyzed under the Section 404(b)(1) Guidelines and the DEIS does not rebut this presumption, it is inappropriate to exclude these alternatives from the 404(b)(1) analysis.

Special Aquatic Sites. The Guidelines identify wetlands as special aquatic sites (40 CFR §230.3(q-1), Subpart E). The Evaluation states that individual wetlands along the outlet alignment will be affected by fill activities, yet later the Evaluation indicates, "No known special aquatic sites would be affected by the proposed fill activities." (Page 404-6, Evaluation.) This inconsistency only further underscores the inadequacy of the Evaluation.

Significant Degradation. The Guidelines state that, "No discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States." (40 CFR §230.10(c).) The DEIS discusses many potential adverse impacts resulting from the construction and operation of an outlet, most of them downstream from the outfall structure. Some of the adverse impacts include loss of stream bank stability due to erosion and loss of vegetation, increased turbidity, loss of aquatic habitat, significant changes to aquatic life present in the Sheyenne, induced flooding, groundwater changes, river access/crossing effects, increased exceedences of water quality standards, and increased water treatment costs by downstream water users. Moreover, the DEIS indicates that changes in water quality constituents and nutrients in the Sheyenne would violate North Dakota's anti-degradation policy. Though not analyzed in the context of the Guidelines, Part II. H. of Appendix I reaffirms the preliminary conclusions of the DEIS, stating, "Operation of an outlet could result in significant effects to aquatic and terrestrial resources in Devils Lake, the Sheyenne River and the Red River of the North." (Page 404-6, Evaluation.) Therefore, based on the information provided in the DEIS, the EPA has concerns as to whether the Preliminarily Selected Outlet Plan, as proposed, would meet this provision of the Guidelines, and further evaluation is needed prior to a determination of compliance being made.

Mitigation

The Guidelines require that no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. (40 CFR §230.10(d).) The Evaluation does not include adequate information on how the project's impacts would be mitigated. Although the document provides some information on direct impacts (150 acres to water of the U.S. from construction, according to page 404-3 of the Evaluation) and indirect impacts (2,100 acres adverse impacts to wetlands, according to page 5-95 of DEIS), cumulative wetlands impacts are inadequately assessed as they pertain to potential changes to water quality, riparian lands (reportedly 6,000 acres of indirect impacts, according to page 5-95 of DEIS) and biota transfer. For example, the following statement in DEIS, on page 5-96, acknowledges that mitigation is not included: "Mitigation for loss of land due to erosion, increased soil salinity, decreased crop production, induced flooding, river access/crossing effects, and increased water treatment costs by water users is not included in this discussion." Of further concern is the difficulty to mitigate for some impacts. The DEIS states that, "Substantial to significant adverse impacts to aquatic habitat availability and suitability can be expected under most if not all of the Devils Lake outlet options. The most sensitive habitat types, such as riffles where shallow, fast habitats predominate, would be almost entirely eliminated for a majority of the year." (Page C-38.) The DEIS appears to indicate that some of the project's impacts, therefore, are not able to be mitigated. Furthermore, the DEIS indicates that not all adverse wetlands and aquatic impacts are known or understood and that supplemental NEPA documentation will be completed after construction of the proposed outlet is completed. However, a detailed compensatory mitigation plan must be developed for unavoidable wetland and aquatic resource impacts as part of demonstrating compliance with the Guidelines.

Finally, the estimated mitigation costs in the DEIS significantly underestimate the downstream costs and needed mitigation, thereby overstating the benefit-cost ratio of the outlet alternatives. It appears that the costs for mitigation are underestimated just based on the documented downstream impacts that are described in the DEIS. Additional downstream impacts that have not been evaluated, including many water quality impacts to downstream communities and aquatic ecosystems, and potential impacts and risks of the transfer of nonnative biota in Canada's Red River and Lake Winnipeg, as well as the loss of aquatic habitats and species in the Sheyenne River, could be significant in the United States and Canada.

Monitoring

On page 5-94, the DEIS states, "Monitoring is a major component of the proposed mitigation package. A major purpose of monitoring is to collect existing information and conduct follow-up surveys of the same resources during project operation." This is not a mitigation plan but rather a plan to determine whether mitigation is possible. Unless there is a proposal to minimize the potential adverse impacts from the discharge to the aquatic ecosystem, the project would not comply with the Guidelines at 40 CFR 230.10(d).

The DEIS does not describe the environmental monitoring that is appropriate and necessary. There should be monitoring for all expected adverse impacts that are determined to be significant

and be tied to outlet operations. A management indicators list should be prepared. Indicators should include but not be limited to: flood and groundwater levels; infrastructure protection and risk; fish, wildlife, and vegetative species; vegetative structure; soils; recreation amenities; and nonnative species such as noxious weeds or alien predators.

Reasonable Alternatives That Need Full Consideration

The Corps did not conduct a full analysis of alternatives. Failure to evaluate all reasonable foreseeable future actions is contrary to NEPA and associated Council on Environmental Quality regulations (40 CFR 1502.14) to, "Rigorously explore and objectively evaluate all reasonable alternatives." The DEIS devoted substantially greater treatment to outlet alternatives than to non-outlet alternatives. The DEIS does not provide adequate information to evaluate the comparative merits of all reasonable alternatives, as required in 40 CFR 1502.14(b), nor does the DEIS fully evaluate the adverse impacts downstream from outlet alternatives to determine the relative merits of all alternatives.

Upper Basin Management and the effects of combined Enhanced Infrastructure Protection and Upper Basin Management need more investigation to determine cost-effective and environmentally beneficial approaches to reduce flood risks and damages. An alternative(s) to evaluate future actions that may be necessary in the unlikely event of a natural spill also should be developed fully in the DEIS for comparison to the existing alternatives. The Corps should prepare a revised DEIS that considers all viable alternatives and fully and rigorously evaluates their effectiveness, benefits, and costs.

Upper Basin Management

Upper Basin Management should be evaluated fully for its potential to reduce flooding and flood damages from expected (probable) Lake levels. In the DEIS neither its environmental nor economic benefits and costs are fully evaluated. Agricultural land management practices can greatly enhance the effectiveness of Upper Basin Management and are not identified and evaluated in the DEIS. Wetland restoration and land management practices that should be fully evaluated are outlined below.

Wetlands Restoration. The Upper Basin Storage alternative identified 200,000 acres of intact depressions and 92,000 acres of drained depressions. The Fish and Wildlife Service's (FWS) Fish and Wildlife Coordination Report (Appendix 2) indicated that drained depressions were underestimated in the DEIS alternative by at least 50 percent (pages 10-2 to 10-7). There appears to be greater opportunity for wetlands restoration than what is assessed in the DEIS alternative. A revised DEIS should respond to the extensive discussion on pages 10-2 to 10-7 as to why wetlands restoration and upper basin water storage potential are underestimated. Further, wetlands restoration is not fully evaluated for all of the effectiveness and benefits that could be accomplished, only for its flood reduction impacts. There are many other benefits associated with improved upper basin management of water resources.

Agricultural Management Practices. Agricultural practices that can significantly increase consumptive water use in the Devils Lake basin are not evaluated in the DEIS. Permanent grass

or other vegetation, for example as supported by the Conservation Reserve Program (CRP) acreage mentioned in the DEIS, can retain and use a great deal of water and attenuate runoff while providing other significant water quality and wildlife benefits that should be evaluated in a revised DEIS. Special attention and incentives could be proposed to enhance the CRP in the Devils Lake basin. Irrigation and agricultural cultivation practices also could significantly enhance consumptive water use if incentives are considered. Enforcement of private wetland easements may contribute to greater water retention during wet years. Dry dams and other conventional water retention structures also should be fully evaluated for their potential to attenuate flood flows and increase upper basin water retention.

Future Emergency Outlet

The Corps should fully evaluate an alternative to raise and otherwise protect the natural outlet, to be implemented in the event of an emergency Lake level rise and natural spillover into the Shesenne River in the future. The alternative should evaluate the risks of erosion of the natural outlet and, if found to be significant, identify protective measures to avoid a catastrophic natural overflow event as the Corps describes an uncontrolled natural overflow event in the DEIS. Evaluation of all environmental and economic benefits and costs should be included in a revised DEIS. Such an alternative, which determines the actions that may be necessary in the future, would have substantial environmental benefits and be economically efficient (i.e., expected benefits would be greater than expected costs). Given the statistical unlikelihood of the Lake reaching the elevation necessary to overflow, this alternative also would have smaller overall environmental risks and adverse impacts downstream even in the unlikely event of a natural overflow. The statement on page I-S-6, "Since it is unknown whether measures will be taken to minimize erosion at the natural outlet. . ." should be replaced with a more realistic assessment, as stated on page 5-89, that it is reasonable to assume that erosion protection measures for the natural outlet would be undertaken if necessary.

Combining Alternatives for an Environmental Protection Alternative

A combination of Enhanced Infrastructure Protection, Upper Basin Management, and protection of the natural outlet should be evaluated. Above we outline the multiple benefits of those three alternatives and how all three avoid the certain adverse downstream environmental impacts that would be caused by an artificial outlet and its operation. A combined alternative also will be more cost effective than any single alternative or an alternative that includes an artificial outlet and its resulting adverse impacts and mitigation costs for downstream impacts.

Need Assessment

Based on our review of the DEIS, we have questions and concerns regarding the meteorological and hydrological assumptions that are being used in the DEIS to project the potential for a natural overflow event sometime in the future. The purpose and need statement on page 1-4 of the DEIS states, "The purpose of the proposed action is to reduce the flood damages related to the rising lake levels in the flood-prone areas around Devils Lake and to reduce the potential for a natural overflow event."

The DEIS discusses and acknowledges the uncertainty associated with forecasting Lake levels (e.g., Table A, page 1-S-3, which provides a comparison of past Lake level probability estimates with actual peak stages). However, the DEIS did not support its conclusion that constructing an outlet can be viewed as a risk aversion insurance policy. Several hydrological scenarios were run to predict future Lake stages. The DEIS should disclose how and why those hypothetical scenarios were constructed as they were to create various flood stages, without being based on statistical probabilities. Modeling assumptions and the sensitivity of the models and outputs to those assumptions should be discussed. Because the bulk of the DEIS addresses the effectiveness and impacts of various outlet alternatives under the constructed hydrological scenarios, those scenarios create the need for the Preliminarily Selected Outlet Plan. We found the three scenarios confuse rather than clarify the likely future Lake levels. As a result, the scenarios are confusing and do not appear to justify the need for an artificial outlet at this time. Based on the probability-based meteorologic, hydrologic, and economic modeling in the DEIS, an outlet is not justified on the basis of economic or environmental considerations.

The Wet Scenario modeled in the DEIS far exceeds the range of precipitation data in the historic record. As a constructed scenario without a statistical foundation, the DEIS did not provide an explanation of why this unlikely scenario was projected; it appears to be constructed to justify the need for an artificial outlet because the probability-based data failed to justify it. The Wet Scenario assumes the wettest seven-year cycle ever recorded in the Devils Lake Basin (1993 to 1997) will continue and be repeated three times over the next 21 years. After that, the conditions similar to those in the stochastic analysis for 1980 to 1999 will follow for the next 20 years, that period having above-average precipitation compared to the overall historic record as well. As the DEIS states, "While the use of a wet future scenario may provide insight into potential benefits of the outlet alternatives, such analysis provides little assurance as to the soundness of such an investment, since it is tied to the unlikely assumption that a particular scenario will ever occur" (page 4-40). We concur with that assessment. A better approach would be to provide a discussion of what climatic conditions and runoff would be required to reach a natural overflow event, and how small the statistical likelihood is that such a weather pattern and flooding events could occur.

The DEIS should rely primarily on stochastic, probability-based analysis to predict future flood stages. This traditional method used by the Corps to project flood scenarios is based on the Principles and Guidelines (Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, 1983). The DEIS points out that the Principles and Guidelines allow for development of alternative future conditions or scenarios in situations where there is uncertainty. The scenario-based analysis in the DEIS was conducted to address potential solutions to problems in the basin if wet conditions that exceed any period in the basin's history are experienced. The scenario-based approach should explain that it is a significant departure from the Corps' typical flood prediction methods. There is considerable scientific debate about how stationary the climate is and how it affects conditions in the Devils Lake basin; that issue is central to determine whether a scenario-based approach is warranted. As such, that debate should be summarized briefly in the DEIS.

Based on the results of the stochastic analysis, the DEIS concludes that an outlet would reduce the chance of an overflow from 9.4 percent to 4.1 percent. We have reviewed other

technical reports that have evaluated the risk of a natural overflow that come to different conclusions. On page 19 of a 1998 report prepared by the Corps's Institute for Water Resources, "The Virtual Flood of Devils Lake, North Dakota," found that the chance for a natural spill was only 0.4 percent, more than an order of magnitude smaller risk than described in the DEIS. That report further reported that an outlet would reduce the chance of a natural spill into the Sheyenne by only 0.2 percent. Please resolve the differences between the DEIS and the earlier Corps' analysis of the risks of a natural overflow.

International Issues

The DEIS understates the importance of meeting the requirements of the Boundary Waters Treaty of 1909 (Treaty) between the United States and Canada. In fact, the DEIS does not address whether proposed operations in the Preliminarily Selected Outlet Plan meet the requirements of the Treaty. The limited information in the DEIS suggests that construction of an outlet raises several significant issues with respect to the no-harm provisions of the Boundary Waters Treaty. For example, we are concerned with information included in the DEIS about the potential for increased exceedences of the water quality objectives established at the border by the International Joint Commission (IJC) Red River Board. Further, we are concerned that the DEIS does not acknowledge the IJC International Red River Board's water quality alert levels. These alert levels address a large number of water quality parameters, including metals and pesticides.

Statements that water quality changes to the Sheyenne River could result in substantial changes in aquatic biota (page 5-53) and concerns expressed about biota transfer (page 5-61) and related, unresolved operational impacts of the Devils Lake outlet, including those to downstream water uses, and adequate review and consideration of appropriate mitigation measures, need to be more fully addressed prior to project construction.

We emphasize that U.S. consultations with the federal and provincial governments of Canada need to take place prior to outlet construction. We continue to support such United States-Canada consultations, including further consideration of the IJC being called upon to assist the two countries. Timely and close U.S. consultation and coordination with Manitoba and Canada, with the assistance of the IJC, on the Devils Lake project will also help ensure that the United States fulfills requirements of U.S. Executive Order 13112 on Invasive Species.

The DEIS does not adequately address U.S. legal requirements to confer with the IJC. The IJC is a binational independent organization, chartered by the Treaty. The IJC receives Treaty work references from the governments of the United States and Canada. The importance of timely references to the IJC from the two governments should not be underestimated.

Cumulative Impacts from Reasonably Foreseeable Future Actions

The Corps did not fully consider the State of North Dakota's proposed outlet at Round Lake in the DEIS sensitivity analysis of that State outlet (page 1-S-10). Since the DEIS was released, the Governor of North Dakota has indicated that the State intends to proceed with its outlet. P.L. 105-62 does not appear to preclude the Corps from its responsibility to consider a State outlet's cumulative environmental impacts and the effect that a State outlet would have on the economic

and environmental feasibility of a Corps outlet. The DEIS states that if the State actually constructs an outlet, a decision would have to be made on whether the future without conditions should be reevaluated. Given North Dakota's commitment to proceed with its outlet, the construction and operation of a State outlet should be considered a reasonably foreseeable action and evaluated in the DEIS. Reportedly, the State outlet follows an alignment similar to the Peterson Coulee outlet, merges with the Pelican Lake outlet, and is sized to accommodate the combined release of both outlets.

The Corps should evaluate the cumulative impacts from a proposed Missouri River inlet to Devils Lake. An inlet has important implications for Devils Lake and especially to downstream areas in the Sheyenne and Red Rivers. Our understanding of P.L. 105-62 is that it constrained the Corps only from using Devils Lake study funds to examine the feasibility of an inlet and did not preclude the Corps from evaluating the cumulative impacts from an inlet to Devils Lake and to the Sheyenne and Red Rivers. Implicit in the DEIS and in the State of North Dakota's water plans is an objective to operate Devils Lake as a stable reservoir rather than as a fluctuating, closed-basin lake. With an outlet constructed, a Missouri River inlet would cause significantly greater potential for downstream impacts in the Red River basin from aquatic species not found there that are found in the Missouri River.

Fish and Wildlife Impacts

Nonnative Species and Biota Transfer

The Corps should address how the proposed actions are consistent with Executive Order 13112 for Invasive Species. Under that Executive Order, to the extent practicable and permitted by law, any Federal agency is required to identify actions that can increase the risk of introducing invasive species; prevent the introduction of invasive species; and conduct research to prevent introduction of invasive species. Further, the Executive Order provides, to the extent practicable and permitted by law, that Federal agencies not authorize, fund, or carry out actions that are believed likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

EPA requests that additional information be provided in a revised DEIS, prior to decisions regarding the project and how to avoid and mitigate its potential downstream impacts from nonnative biota. For example, there is a lack of good fish health information on species in both the Rivers and Lake (Appendix C). The older literature used (all references and reports) are inappropriate sources for current fish health conditions. Significant parasites and pathogens have been introduced in the Lake and rivers. The Corps indicated that fish pathogen and parasite surveys are being conducted, but in any survey those species that are detected are generally those

that are sought. It would be helpful if a revised DEIS notes what techniques are used to do pathogen and parasite surveys.

A revised DEIS should assess concerns about those species that are present in the Sheyenne and Red Rivers but not found in Devils Lake. At a minimum, those fish and invertebrate species that are potentially more sensitive to environmental change should be evaluated for the potential impacts on them from later water releases. There could be many parasite species, particularly the *myxosporidians* and *digenetic* trematodes, present in their intermediate hosts in Devils Lake and not causing fish health problems because the fish host is not present. However, release of water containing these intermediate hosts could initiate severe disease problems for the riverine fishes downstream. Fish parasites occurring in Devils Lake that have not been found in the Sheyenne and Red Rivers include *Gyrodactylus hoffmani* and *Ligula intestinalis*, and no analysis or discussion of the potential risks from those parasites is in the DEIS.

A further aspect of the fish health issues is the potential "accumulation" of infective parasite stages or other microbial pathogens in the Lake environment. The finer-sediment, higher-nutrient, lower-flow environment of a lake may be conducive to large populations of an intermediate host for a *tubifex* worm, for example. Hence, large numbers of an infective spore can be present in water releases from lakes, causing high infection rates and death of fish downstream. There are differences in worm populations in terms of their ability to become infected by the spores and the numbers of infective spores produced. Environmental alterations could change the population makeup of benthic organisms that act as intermediate hosts; habitat changes could have significant effects. Information indicates that environmental stress upsets the balance between a host and a "good" parasite (one that does not seriously impact or kill its host) and stressing fish with poorer water quality or increasing parasite numbers could significantly alter the effects on host fish.

The Corps failed to address the nonnative biota risks associated with any future inlet from the Missouri River. While not part of the outlet discussion, the Corps should address the ongoing studies by the Bureau of Reclamation that are authorized by the Dakota Water Resources Act in the cumulative impacts section of a revised DEIS. Many important nonnative species, such as zebra mussel (*Dreissena polymorpha* Pallas), may be introduced or enhanced in Devils Lake if a Missouri River inlet were constructed. Control of zebra mussel and other environmentally- and economically-damaging, nonnative species has proven difficult and ineffective. Important species that are nonnative and invasive and for which no extensive survey was conducted (page C-62) in the Sheyenne River include Eurasian water milfoil (*Myriophyllum spicatum* Linnaeus) and purple loosestrife (*Lythrum salicaria* Linnaeus, *Lythrum virgatum* Linnaeus). A Missouri River inlet could significantly change the Red River's ecosystems by introducing native and nonnative Missouri River fish species, including the Asian carp species such as the silver carp (*Hypophthalmichthys molitrix* Valenciennes) and zander (*Stizostedion lucioperca*). In 1989, North Dakota planted over 1,000 fingerling zander in Spiritwood Lake near Jamestown, ND. Zander reproduction was documented there in 1999, after that lake overflowed in 1997. As the DEIS points out (page C-66), there is no effective means to ensure that outlet operations could be mitigated to ensure that nonnative species would be precluded from the Red River basin.

More complete information is needed for an inlet and other reasonably foreseeable future actions. Complete disclosure is needed to determine whether there are significant long-term risks

from nonnative biota to the Red River system and downstream ecosystems that could result from the indirect and cumulative effects of a Devils Lake outlet and water diversion proposals.

Wildlife Habitat Effects and Biodiversity

Further analysis and disclosure of adverse impacts to aquatic life are needed. All outlet alternatives would cause unavoidable, significant, adverse impacts to downstream fish and wildlife (Appendix 2). Numerous statements in Appendix C indicate that those impacts will be difficult or impossible to mitigate if outlet operations proceed (e.g., pages C-38 to C-40). Aquatic life stressors from outlet operations or a natural overflow event that are mentioned include increased erosion and TDS, chlorides, nutrients, algal concentrations, dissolved oxygen concentrations, CO₂ concentrations, pH, alkalinity, carbonate-bicarbonate balance, and habitat losses (Appendix C). Adverse aquatic life impacts are noted to persist for many years. Data were provided only for a few constituents and stressors (i.e., TDS, nutrients, and some habitat losses). Some aquatic species that are adversely and significantly impacted may be significant components (e.g., mussel spp.) necessary for ecosystem health and functions. Those functions and their values are not evaluated in the DEIS.

Proposed planning to avoid adverse impacts and mitigation for unavoidable adverse impacts is needed in the DEIS. Mitigation is needed for outlet operations and their significant adverse impacts that are noted to aquatic species and to both rare and more common species of small mammals, birds, reptiles, and other native wildlife.

The DEIS should recognize and analyze the sub-lethal effects to fish populations and other aquatic life that could be expected in the Sheyenne and Red Rivers. Impacts will occur through: loss of habitat; loss of host fish species for the *glochidia*; and potential sub-lethal stress effects of increased dissolved solids, sulfates, chloride and other constituents. A revised DEIS should examine the impacts to aquatic life from all of these sub-lethal effects.

There are statements in Appendix C that threshold levels of some aquatic species would be approached with outlet operations but that no significant effects are anticipated. We are unsure what thresholds are referred to there. If constituent elements are expected to approach toxic thresholds, sub-lethal effects to aquatic life should be anticipated and therefore evaluated as they could influence the growth, survival, and reproduction of aquatic species.

The DEIS does not recognize that the addition of stressors such as TDS, chloride and sulfides could lead to excessive proliferation of these potential pathogens and ultimately disease problems for aquatic life. For instance, TDS can affect the gills of fish (and probably mussels) through irritation, stimulation of mucus production, and clogging that can lead to bacterial gill disease, various protozoal infections of gills, and so forth, when those organisms have been allowed to proliferate.

We suggest analyzing the fish for mercury if there is reason for concern. There is a statement on page C-74, paragraph 2, "Mercury accumulation is of particular concern, as methyl mercury levels in Red River fish are currently high, and additional methyl mercury could be released in newly flooded areas." Summary data for this pollutant should be included in the DEIS

for current levels of methyl mercury (from reference provided, Brigham *et al.* 1998). Low pH is an important factor in converting mercury to methyl mercury, and pH values are not provided in the DEIS. Additional information is needed to reasonably conclude that mercury is not a significant concern associated with operating a Devils Lake outlet.

Outlets should be evaluated for their impacts from long-term operations. The DEIS should note that the State of Minnesota has identified segments of the Red River as impaired, based on biological measures. Outlet operation may further impair those segments in the future, but data beyond 20 years were not presented. More saline water would be pumped out of the Devils Lake Basin after 20 years, and this data gap leads to underestimation of long-term downstream impacts. Operation of an outlet over time would result in increases in the magnitude, frequency, and duration of elevated water quality contaminant exceedences for TDS and sulfate. In addition, nutrients such as phosphorus are expected to contribute to degraded water quality downstream.

Economic Evaluation

Economic Justification

No outlet alternative considered was economically justified (i.e., had estimated benefits that exceed the estimated costs) using the Corps planning guidance and their Principles and Guidelines criteria to evaluate the National Economic Development (NED). The Corps understated the adverse impacts downstream to economic and natural resources. Because the economic evaluation underestimates those impacts it, therefore, understates the actual costs for an outlet. Benefits are overstated because they are projected for 50 years of operations, while the Corps concedes that operations may have to be constrained only to the "current emergency situation," to meet water quality standards. Given the underestimate of costs and the slight overestimate of benefits, the B/C ratio actually is lower, probably significantly so, than what is reported in the economic evaluation of the DEIS. Many reasonably measurable costs and benefits are not estimated for all alternatives. Benefits appear to be underestimated for non-outlet alternatives and costs appear to be underestimated for outlet alternatives. Because of those shortcomings, the B/C decision criterion in the DEIS (i.e., B/C greater than 1) is flawed.

Underestimated Costs for Outlet Alternatives

Real costs are understated for each outlet alternative because the Corps' NED approach does not incorporate many, and perhaps most, adverse environmental impacts to express them in dollars. The relatively small costs reported for mitigation costs downstream do not include the likely costs from losses and damages to many natural resources. Nor are any adverse impacts to Canadians and Canada's natural resources evaluated in the DEIS; the reviewer has no information to determine whether they are significant.

Another underestimated cost is outlet operations. The DEIS indicates that operating and maintenance costs are not included in the cost analysis because those costs will be borne by the project sponsor (page B-54). EPA has not seen previous projects where the incidence of costs was distributed in a way to remove them from the project costs. Nearly all of the project costs are born by downstream water resources and user groups. All benefits of an outlet accrue to the

local community and are included in calculations of benefits. All NED benefits and costs should be arrayed for evaluating the project efficiency and to determine the benefit-cost criterion for decision-making, as directed in the Corps planning guidance and Principles and Guidelines.

Underestimated Benefits for Non-Outlet Alternatives

The Upper Basin Water Management alternative has environmental benefits that are not measured in dollars nor quantified or described in the DEIS. Therefore, many benefits are not incorporated for that alternative. Upper Basin Management not only reduces adverse water flow and quality impacts to Devils Lake, it also avoids the adverse downstream water-quality impacts associated with outlet alternatives. Hence, because many environmental benefits are not quantified for Upper Basin Management, the B/C ratio and overall effectiveness using the NED criterion is underestimated for the alternative.

Similarly, the Enhanced Infrastructure Measures have social and economic benefits that are not quantified, described, nor expressed in monetary terms and that alternative would avoid the adverse downstream impacts to human and natural communities. Many benefits are not quantified and those Measures avoid many adverse downstream impacts that are associated with outlet alternatives. Therefore, the economic efficiency of Enhanced Infrastructure Measures is greater than what is reported in the DEIS. The same benefit and cost arguments can be made for the Raise the Natural Outlet alternative as for the other two non-outlet alternatives.

We are uncertain what the current flood protection level to evaluate flooding costs avoided in the DEIS. This is important in the calculation of benefits under each alternative and should be clarified. The DEIS should also clarify that the Corps did not include the fixed costs associated with infrastructure measures that will be undertaken regardless of Lake elevation.

Net Economic Benefits Criterion

The DEIS fails to show an important economic decision criterion, "net economic benefits." That should be used with the B/C ratio, particularly for this proposed project(s) with its negative B/C ratio. An outlet is less economically efficient than non-outlet alternatives using net economic benefits. If all downstream impacts, including those in Canada, are properly accounted for, the net economic benefits criterion would prove stronger for the Upper Basin Management, Enhanced Infrastructure Measures, and Raise the Natural Outlet alternatives.

Using "Scenarios" to Justify Alternatives

Selecting scenarios to evaluate the alternatives, the Corps uses assumptions that are not related to real-world stochastic risks or analysis. Hence, the benefits and costs are not based on expected values but are inflated by unlikely events. Table B (page 1-S-4) compares the stochastic B/C ratio to scenario-based B/C ratios (which are not probability-weighted). This difference inflates the wet scenario-based ratios because they are assumed to have a "100% chance" of occurring. The statistical or theoretical foundation for the assumptions used to arrive at B/C ratios greater than one under wet or high lake-level scenarios is unclear and appears to be unjustified. Those assumptions need to be clarified. The Dry scenario was not fully evaluated to

show the low end of the range for potential economic effects.

Distributional Impacts Not Disclosed

The DEIS does not disclose the inequities associated with the distributional impacts from the Preliminarily Selected Outlet Plan Alternative and other outlet alternatives. Many more people live downstream of Devils Lake compared to the population of potential beneficiaries of an outlet. The large majority of impacts to those downstream, who are affected adversely, are not quantified or monetized. Those impacts include adverse effects on recreation and tourism for activities like recreational fishing and other nature-based recreation, and for the impacts from the poorly understood adverse impacts to native aquatic species and habitats and nearby terrestrial resources. Again, no impacts to the large population of Canadians and their natural resources are evaluated in the DEIS. Further, as indicated previously, potential negative impacts across the Canadian border are not adequately evaluated in the DEIS.

Environmental Quality Impacts

All environmental quality impacts (the "EQ" account in the Corps' parlance using the Principles and Guidelines) should be quantified where possible, and expressed in monetary terms, where possible, to fully understand the economic impacts of an outlet on downstream resources. EQ effects are not described nor compared in the economic analysis and results. According to the DEIS, those EQ impacts are not included in the B/C ratio decision criteria. Hence, the NED decision criterion ignores many adverse impacts and, therefore, environmental costs to downstream resources. Only mitigation costs are incorporated as downstream costs in the DEIS; that is not an appropriate measure of those costs because the adverse downstream impacts are not eliminated by the known mitigation measures and probably could not be avoided or mitigated after an outlet were completed and operating. Those costs include impacts from water-quality degradation, losses or degradation of aquatic and terrestrial habitats, losses of rare and native aquatic populations and possibly species, and potential losses of cultural resources. They also would include costs downstream in Canada, which are not evaluated.

Regional Economic Damages

"RED" is defined as "Regional Economic Damages" under "the Corps' standard damages/benefits" (page B-9). We are familiar with RED in the Principles and Guidelines referring to "Regional Economic Development." Please clarify the definition of RED if it is incorrect. The example used is, "Prime examples (of RED) are the impacts of flooding on the region's businesses, and on the \$50 million per year recreation industry." The DEIS states that those impacts are not accounted for in the Economic Analysis (page B-9). Those damages should be in the NED assessment of monetized impacts from Lake flooding and explicitly expressed as NED benefits for Enhanced Infrastructure Measures in Appendix B, if those Measures protect those human uses. That should be removed as an example of RED if it already is part of the NED accounting of damages to recreation and business. Our understanding of RED is that it measures regional transfers of income that are not captured in NED benefits and costs.

There is inadequate information for a fully-informed decision based on the Corps' benefit-

cost criteria. However, the existing economic information overwhelmingly concludes that any outlet alternative would be an economically inefficient use of public resources. The other alternatives warrant greater attention to reduce economic losses for those affected downstream. Analysis should answer the broad questions of how to best protect human, natural resource, and environmental values. A reasonable way to compare monetary and non-monetary impacts is a matrix that describes all impacts from all alternatives.

Tribal / Environmental Justice Effects

Executive Order 12898 and its accompanying memorandum have a primary purpose to ensure that, "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The Council on Environmental Quality (CEQ) has provided a document to federal agencies that spells out six principles for use in doing an environmental justice (EJ) analysis under the National Environmental Policy Act (NEPA). See, *CEQ's EJ Guidance Under NEPA*, 12/10/97. The DEIS lacks an in-depth EJ analysis, as explained below using five of the six principles of analysis.

(1) Composition of Affected Area

The DEIS should indicate how low income is defined and how those populations are determined, including demographic factors (e.g., race, ethnicity, low-income status, older and younger populations). No demographic analysis was completed for the Spirit Lake Nation or aboriginal peoples dependent on fish and other resources downstream on Lake Winnipeg. Broad generalizations were made about disproportionate impacts that may or may not occur to minority populations without discussing what these disproportionate impacts may be and the effect that they may have on the health or environment of the identified group.

(2) Relevant Public Health Data

No specific analysis of the human health and risk factors was completed relevant to the environmental justice populations in North Dakota or Manitoba, Canada.

(3) Cultural, Social, Occupational, Historical or Economic Factors

There is no analysis specific to identified EJ communities. For example, there is no discussion about the health effects of this action on fish or humans who consume them or about the significance of subsistence hunting and fishing by tribal members of the Spirit Lake Nation. Under NEPA, the "differential patterns of consumption of natural resources" are to be examined for EJ communities.

Economic factors of the individuals in a specific EJ community may exacerbate risks. The economic condition of the community at large may result in situations that preclude the local government's ability to protect adequately the population or may promote the acceptance of disproportionately high and adverse effects. Protection from adverse impacts to existing or

potential domestic water supply and to sewage facilities should be addressed, if appropriate.

There is no discussion or evaluation of the impacts to EJ communities in Canada. Lake Winnipeg supports a large and significant commercial, recreational, and subsistence fishery. Many aboriginal people live around Lake Winnipeg and depend on its fishery for their livelihood and for subsistence fishing. Any significant threats from nonnative biota introduced to Lake Winnipeg and its fishery resources should be discussed.

(4) Effective Public Participation

Not all studies cited in the EIS were available for review. Access of EJ community members to the decision-making process should be more fully discussed. Consideration should be given to the clarity and accuracy of presentations to the community and whether non-written materials, such as videos and non-English translators, are needed. Coordination with the Spirit Lake Nation is mentioned but their specific involvement with the DEIS is not discussed.

(5) Tribal Government-to-Government Representation

Issues such as the Federal government's trust responsibility and treaties that may affect the Spirit Lake Nation and its water rights are not discussed. Intergovernmental issues with Manitoba, Canada and the impacts to aboriginal populations on Lake Winnipeg and elsewhere in the Province are not discussed. Treaty-protected resources, cultural use of natural resources and/or protection of specific Tribal sacred or cultural sites are not discussed.

Letter of Comment – Department of the
Interior



United States Department of the Interior

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April 17, 2002

ER 02/208

Mr. David Loss
District Engineer's Office (PM-A)
St. Paul District, Corps of Engineers
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Mr. Loss:

The Department of the Interior has reviewed the Draft Integrated Planning Report and Environmental Impact Statement (DEIS) for Devils Lake; Benson, Nelson, Cavalier, and Walsh Counties, ND; and provides the following comments. In connection with this project, the Fish and Wildlife Service (Service) prepared a Draft Fish and Wildlife Coordination Act (FWCA) report, dated January 2002 which is appended to the referenced DEIS. The comments contained in this letter are considered supplemental to the material presented in the FWCA report.

General Comments

The Department of the Interior (Department) has identified the following concerns relative to all Devils Lake outlet alternatives. Most of these concerns were identified in the Service's FWCA report which is appended to the DEIS. It is our recommendation that the natural resource issues and concerns described in the FWCA report be incorporated into project designs and described in the DEIS. The following are several key issues that the Department wants to reiterate.

Impacts to fish and sensitive fish species in the Sheyenne and Red Rivers: The outlet's effects on the fishery resource within the Sheyenne and Red Rivers will largely be connected to river's higher, prolonged flows. The resulting loss of riffle and pool habitat from higher annual flows in the Sheyenne and Red Rivers is a concern for aquatic species. Riffle and pool habitats are important during low-flow periods, as they provide wintering, rearing, and forage areas for fish. Higher, prolonged flood water in the river systems could convert riparian habitat located along the bank of the river, which in turn can impact fish species. Additionally, the Department is concerned with the fragile connection between mussels and their host fish in the Sheyenne. If a host fish is reduced or eliminated by habitat loss or poor water quality, a loss of associated mussel species may occur.

In the upper Sheyenne River, there are 16 fish species that could be impacted due to the loss of habitat types. Of these species, six are located in the upper Sheyenne River and utilize the slow riffle habitat type for some part of their life stage. Recent modeling data indicates that outlet operations may result in a decline of the slow riffle habitat on the upper Sheyenne River. The fish species potentially effected by the decline of this habitat are the bluntnose minnow, channel catfish, common shiner, shorthead redhorse, white sucker, and yellow perch. The possible decline of these fish species in the Sheyenne River may be significant, as they are known host fish for the cylindrical papershell, threeridge, fatmucket, giant floater, elktoe, and pocketbook mussel species. With the exception of the elktoe, the other five mussel species have been recorded in the Sheyenne River. Although these are not the only known host fish for these mussel species, the general decline or loss of host fish could still have an impact on mussel populations, depending on the distribution and abundance of other suitable host fish in the upper Sheyenne River. None of the six fish species are known host fish for the Wabash pigtoe, a North Dakota State-listed rare species that occurs in the upper Sheyenne River.

In the lower Sheyenne River, there are 14 known host fish species dependent on the shallow and medium pool habitats in the lower Sheyenne River. Recent modeling data indicates that outlet operations may result in a decline of the shallow and medium pool habitats on the lower Sheyenne River. Of the 14 fish species, four of them, the black crappie, bluegill, largemouth bass, and white crappie are known host fish species for the Wabash pigtoe and the black sandshell, both of which are State-listed rare mussel species. There are three known host fish for the Wabash pigtoe, the black crappie, white crappie, and the bluegill. The decline or loss of these species may be significant as all three are known host fish for the Wabash pigtoe. There are three species that are known host fish for the black sandshell, they are the bluegill, largemouth bass, and the white crappie. As with the Wabash pigtoe, the decline or loss of these host fish would impact all of the known host fish for the black sandshell.

The Department recommends modifying the outlet to ensure that the resultant Sheyenne River flow regimes do not result in the loss of habitat types.

Impacts to the Valley City National Fish Hatchery: Concerns have been expressed about the higher levels of sulfate, total dissolved solids (TDS), and turbidity having a negative impact on the operation of the hatchery. The hatchery takes 100 percent of its water supply for hatchery operations directly from the Sheyenne River. Higher sulfates present a known corrosive problem to hatchery equipment. High TDS levels slow the growth of juvenile fish and limit natural fish reproduction. Increased turbidity (with silts 0.5 microns and below) is likely to hinder fish production at the hatchery as suspended silts create operational problems. The transport of blue-green algae may decrease available zooplankton and phytoplankton for juvenile fish in the Sheyenne River and Lake Ashtabula. Additionally, when the algae expire, they may release algal toxins into the lake resulting in fish kills.

Extended high flows from Baldhill Dam may result in serious problems, with the ability to drain the fish ponds at Baldhill Dam and Valley City National Fish Hatcheries. Flows around

700-800 cfs will prevent the ponds from being drained. In a typical year, juvenile fish are removed and ponds drained in the May to June timeframe coinciding with daphnia (a zooplankton which provides a primary forage base for the fish) depletions. If high flows prevent or delay this procedure, the fish will consume one another as a primary food source, resulting in a lower production.

Upper basin storage study by WEST utilized incomplete data set: The WEST report identified approximately 200,000 acres of intact depressions and 92,000 acres of drained depressions. The Department believes the estimate of drained depressions has been underestimated by at least 50 percent. In agreement with the Service, WEST provided three reasons in their report why they also believe the numbers of intact and drained depressions are likely underestimated. They are: 1) the use of the National Wetlands Inventory (NWI) digital data represents only wetland boundaries, not the full capacity of the depression within which the wetland is situated, 2) a number of Digital Elevation Model (DEM) depression polygons appeared to be smaller in area than the corresponding depressions when compared to aerial photos, and 3) both intact and drained depressions were likely missed by the DEM, especially in the 10-foot contour interval data, and the NWI data likely contains some error of wetland omission.

The DEM grid for Devils Lake was based on a 5-foot contour interval data for 65 percent of the upper basin, with 10-foot contour data covering the western 35 percent of the basin (Comstock, Hurricane Lake, and western Mauvais Coulee subwatersheds). It is important to remember that only 68 percent of the Devils Lake basin is included in this study. WEST's report includes modeling for Edmore, Starkweather, St. Joe, Calio, Mauvais Coulee, Hurricane Lake, and Comstock subwatersheds. The Devils Lake and Stump Lake subwatersheds (20 percent and 12 percent of the basin, respectively) were excluded from the study. The exclusion of 32 percent of the basin means that the numbers and acres of intact and drained depressions are lower than what really exists in the entire basin.

Because many DEM depressions were not identified with both the 5-foot and 10-foot contour data, the DEM derived depressions were supplemented with digital NWI wetland data and aerial photography. While the use of NWI data would be acceptable for including *wetland* basin delineations, it does not assist in the identification and location of *drained* depressions, which is the most important part of the data set in the study. The use of NWI also does not provide wetland depressions that were drained after the date of NWI aerial photography used to make the maps, which in most cases is 1979, with some 1983 photography. As a result, it is likely that a significant number of drained depressions were never included in this study due to the limitations of the DEM data, a fact that WEST acknowledges.

A recent study using DEM data has concluded that the use of DEM's for the identification of depressions is an inaccurate method of delineation ("Evaluation of alternative techniques for delineating restorable depressional wetlands in the prairie pothole and prairie parklands of Minnesota," Johnson 2001). This is certainly true of the WEST study, as the DEM data did not accurately identify the presence of depressions on the data, especially the 10-foot contour data.

This fact is supported with WEST's data, which shows that 65 percent of the total depression count was added using NWI digital wetland data.

For the above-stated reasons, WEST recommended that more intensive analysis be completed, along with a field verification to refine the numbers. The Department believes that the cost/benefit ratio developed on the WEST data to be flawed, and not representative of the true value of upper basin storage to reducing the rise of Devils Lake. The Department believes that the shortcoming of this important data should be explained, as well as recognize that upper basin storage can play a greater role in solving the Devils Lake problem.

There should be more evaluation of the potential for upper basin storage in combination with infrastructure improvements. The Fish and Wildlife Coordination Act Report indicated that there are admitted limitations to upper basin analysis conducted thus far. This combination may have less adverse environmental impacts and provide a better cost/benefit ratio. And, as expressed in the draft EIS, may be a better investment because it is not known what the lake will do.

Sheyenne River morphology impacts and accelerated sedimentation and erosion: The Department is concerned about the higher sustained flows and its effect on the geomorphology of the Sheyenne River. Recent studies indicate that a 7-month outlet operation would convert much of the Sheyenne River into deep pool habitat. Although increased flows may be beneficial to some aquatic life in the upper Sheyenne River, the resultant changes in channel morphology and water quality may impact the availability of necessary habitat required for various life stages of many aquatic species. The net result of this will likely be the reduction of diversity and abundance of aquatic species in the Sheyenne River. Those species that can withstand the impacts could eventually dominate the system.

Furthermore, research indicates that erosion and sedimentation resulting from a change in channel geomorphology can render a substrate unsuitable for mussels. Substrate disturbance can dislodge mussels, alter currents, and resuspend sediment and increase turbulence and turbidity, all of which negatively impact mussels by reducing growth feeding rates, oxygen consumption, and nitrogen excretion. Siltation results in the clogging of the mussel's gills and filtration systems, preventing respiration and causing nutritive stress. Studies show that most mussels die when covered by as little as 1.3 to 5.1 centimeters of silt.

The changes in flow duration, stage, and frequency will increase erosion and sedimentation on the Sheyenne River. Studies to date indicate that the operation of the outlet could result in changes in channel width and in meander length and amplitude. Depending on location, channel widths on the Sheyenne River could change by as much as 3 feet on reaches below Baldhill Dam, to as much as 9 feet at some locations on the Sheyenne River above Baldhill Dam. Modeling results have indicated that there would be no change in stream meander length or amplitude downstream of Lake Ashtabula. On the upper Sheyenne River, meander length could decrease in some reaches by as much as 44 feet and meander amplitude by as much as 14 feet.

The Department recommends that the project be designed to reduce erosion and sedimentation to eliminate the possibility of unnecessary impacts to the aquatic biota of the river. We would also like more explanation on the erosion that may occur with a natural overflow. It would seem there have been enough overflows into adjoining lakes to determine the erosion potentials at the natural outlet.

Wet Future scenario: All outlet alternatives should be analyzed using the standard stochastic approach to evaluating the economic feasibility of the project. Creating hydrologic data, as in the "wet future" scenario, does not seem to comply with the standard Corps guidelines. Repeating the wettest 7 years in recorded history, back-to-back until the lake spills out of the basin, seems to be an attempt to create a disaster large enough to justify the project. Furthermore, the first 3 years of the second cycle (2000-2002) are not supportive of the wet future conditions, as the years 2000 and 2002 have, thus far, not produced substantial runoff into the lake. If a "what if" scenario is desirable, perhaps the moderate futures of 1,450 msl or 1,455 msl would be more likely.

Appendix 1, 404(b)(1) evaluation: By restricting the 404(b)(1) evaluation to only the footprint of the outlet alignment, the evaluation does not accurately discuss the full project or its direct, indirect, and cumulative impacts to the project area.

Fully develop monitoring and mitigation plans to offset project impacts: A long-term monitoring and mitigation plan must be developed that accurately assesses the impact this project will have and how the impacts can be offset, prior to construction. Monitoring may include erosion and sedimentation, channel morphology, fish and mussel surveys, aquatic habitat, water quality, riparian vegetation surveys, soil salinity, endangered species, and groundwater monitoring. Mitigation features include increased upper basin water storage, establishment or enhancing riparian habitat along the Sheyenne River, acquisition of key riparian habitats or plantings, erosion control, fish and mussel stockings and reintroduction. Key recommendations include the monitoring of all natural habitats likely to be affected and the development of an adequate mitigation plan to offset the loss of habitat and, potentially, species. The target elevation of 1443.0' msl for Devils Lake, preserving the future viability of Devils Lake's natural resources, and taking all measures to reduce inflow to the lake should be considered a primary recommendation. The Department recommends that a detailed monitoring and mitigation plan be developed that addresses the significant environmental impacts associated with this project.

Explore alternatives to an outlet: The DEIS tends to focus only on outlet alternatives. More attention should be given to other features such as infrastructure protection and upper basin storage to assist in resolving the impacts of a rising Devils Lake. The poor benefit/cost ratio of the upper basin storage alternative is due to incomplete data contained in the WEST report, as previously discussed above. The Department recommends that the Corps refine the WEST data to accurately determine the acreage of depressional storage in order to produce a more realistic benefit/cost ratio for the upper basin storage alternative.

Consider the role that wetland drainage has played in the rise of the lake: The Department recommends that the Corps thoroughly study the upper basin storage alternative. Additionally, the Corps should ensure that the State or local water boards do not implement plans to remove water from the landscape and place it into the lake through wetland drainage, drain maintenance, or pumping activities for the life of the project. Taking precautions to prevent these aggravating factors is consistent with the goal of reducing lake levels and preventing a natural overflow of Devils Lake to the Sheyenne River. Management of existing projects which seek to add more water to Devils Lake faster should be postponed or minimized during the life of the project. A basin-wide water management plan should be developed in order to effectively manage the flow of water to Devils Lake. An operational procedure to hold water on the landscape, much like the "waffle plan" designed by the Energy & Environmental Research Center's approach to attenuate Red River flood peaks, should be explored and implemented as part of a holistic approach to basin water management.

General ineffectiveness of any outlet in lowering the lake: The Department is concerned that all the outlet alternatives do not lower the lake or prevent a rise of lake elevation. In some cases, the rise of lake level, assuming the wet future, is as much as 10 feet, thereby failing to prevent any future infrastructure impacts associated with the future rise of the lake. Complicating this issue is the fact that all of the alternatives have water quality impacts to some degree, as well as significant impacts to downstream natural resources. Additionally, the Department is concerned that the project will not meet the expectations of the local community. At this time, the Department feels that the public's expectations are far greater than the capability of the outlet alternatives, thus making it difficult to operate any outlet in a manner perceived by the public as ineffective. Such pressures could result in the operation of the outlet in a way inconsistent with its original intent, thus creating potentially severe water quality degradation or other environmental consequences downstream on the Sheyenne and Red Rivers.

The Department recommends that the shortcomings of this project be presented in the Final EIS.

The Department suggests that the following issues, which were not addressed in the DEIS, be considered for discussion in the Final EIS:

Aside from the very low probability of occurrence of a natural overflow from Devils Lake into the Sheyenne River, there are ecological benefits associated with periodic natural flooding of high intensity. Two examples of such benefits would be (1) the flushing of sediments that accumulate in downstream pools during periods of low flow, and (2) the potential creation of oxbow lakes. Another example of a benefit is that water storage in the upper basin of Devils Lake could be enhanced by various other practices, such as the establishment of perennial grasslands in key areas. Current research (Van der Kamp and others, 1999) indicates that grasslands have a tremendous capacity to uptake water. Perhaps, a discussion on these examples and other positive benefits associated with flooding could be added to the Final EIS.

Mr. David Loss

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The correct boundary of the Fort Totten Reservation includes both Devils Lake and the Sheyenne River.

The Spirit Lake Tribe has supported a natural overflow of the lake system into the Sheyenne River by resolution. This would be in keeping with the natural processes of this area.

As noted above, the Department is concerned with the impacts that would occur to the Sheyenne and Red Rivers due to the continuous flow of water from a proposed outlet. This flow would cause changes in fish and wildlife utilization of the river, as well as potential alterations in the channel. The Final EIS should address fish and wildlife that require riffle habitat or a combination of habitats that would be impacted from a change in flow characteristics on the river. A natural overflow would increase flow in the river, but it would also theoretically have variations in flow.

There should be a clear definition of an emergency outlet. This should be expressed in terms of operation. For example, this outlet will be operated until the Devils Lake reaches an elevation of *X*, thereafter, it will operate only when there is the potential for the lake to raise to *X* elevation. This would give a clear indication as to the length of time degradation will occur on the Sheyenne River. The amount of reduction in the lake levels that can be expected, and the amount of investment that will be expected from the Federal Government and local sponsors.

Page-Specific Comments

Page 1-S-1: The Department is concerned about the Corps' implementation of "tiering" as related to NEPA compliance. Tiering is applicable for the coverage of general matters in a broad or programmatic EIS. It does not allow for the determination of impacts associated with a project to be completed after construction is underway. Project impacts should be fully disclosed in the NEPA document and incorporated into project design in an effort to avoid, minimize, or mitigate project impacts. Project impacts to natural resources and operation plans designed to avoid, minimize or mitigate these effects have not been developed yet. We recommend that they be disclosed before construction begins.

Page 1-S-6: We question the sentence, "Since it is unknown whether measures will be taken to minimize erosion at the natural outlet, a sensitivity analysis was performed to evaluate the impacts of assuming a reasonable rate of erosion at the natural outlet for the wet future scenario." The *Federal Register* notice dated December 22, 2000, states that measures will be taken to minimize erosion at the natural outlet. Therefore, this analysis seems unnecessary, as any erosion at the natural outlet is totally preventable. This analysis seems to be used to justify an outlet in an attempt to "prevent" a large-scale erosion event and subsequent severe environmental impacts associated with an overflow.

Page 1-S-8: The first two paragraphs detail potential impacts that this project may have on the Sheyenne River, and the fact that there is no detailed mitigation plan in place to offset project impacts. The Department recommends that greater attention be given in the project design and operation to look for ways to avoid or minimize the project impacts before looking to mitigate impacts. It is reasonable to expect that suspected impacts would be evaluated and a plan developed to offset them before the project is constructed. The last paragraph suggests that upper basin storage would convert agricultural lands to intermittent or permanent wetland storage sites. The Department believes that upper basin storage would largely utilize wetland depressions that were likely drained in order to accommodate agricultural production.

Page 1-S-10: The Department disagrees with the statement made in the *Temporary Outlet in Future Conditions* section, wherein it states: "Therefore, the construction and operation of a temporary outlet is not considered to be a reasonably foreseeable action at this time, and the Corps is not including this outlet in the future without project conditions." The State of North Dakota has contracted the design phase of their outlet to an engineering firm in Bismarck and has stated their intent to move ahead in the construction phase of their outlet in the spring of 2002. The State's commitment should be added to the DEIS in order to accurately reflect the future without condition.

Page 1-S-12: A paragraph that discusses the known downstream environmental impacts should be added to the *Unresolved Issues* section. To date, many of the downstream impacts are not fully understood or incorporated into the project design in a way that will avoid or minimize project impacts.

Page 2-6: Figures 7 and 8 show why the lake is unlikely to reach an overflow elevation, and therefore an outlet would ultimately be unnecessary and ineffective. The physical characteristic of the lake tends to have a self-dampening effect on lake level fluctuations. As the lake rises, there is a self-dampening effect on further rises because of the combination of a need for a greater volume of water for the next increment of rise plus an increased volume of lake water lost to evaporation from the larger surface area. This is an important point that should be emphasized.

Page 2-15: Remove the peregrine falcon from the paragraph describing the threatened or endangered species. The peregrine falcon has been recovered and delisted.

Page 3-1: The fourth paragraph discusses the cost effectiveness evaluation using a scenario approach that assumes that the wet cycle of 1993 through 1999 will repeat itself in order to produce an overflow to the Sheyenne River. Thus far, the cycle has not materialized for the first 3 years of the second seven year cycle (2000-2002). The year 2000 resulted in very little runoff into the lake. In 2001, the runoff was essentially in the range of the 1993-99 volumes. So far, 2002 is another dry year with very little runoff into the lake. Unless there is a very wet spring, 2002 will not equal the runoff of 1993-99. How reasonable is it to justify an outlet on assumed climatic conditions that have failed to materialize?

Page 5-52: The Department reiterates the negative environmental impacts discussed in the *Aquatic Resources* section. The downstream impact to the Sheyenne River will result in changes in the water quality, geomorphology, flow regimes, and erosion which will negatively impact the aquatic communities of the river.

A 300 cfs outlet is expected to produce a significant erosion and sedimentation problem along the full length of the Sheyenne River as a result of prolonged higher flows. The subsequent erosion and sedimentation will likely result in a decrease of mussels in the Sheyenne River. The result of the increased flows may result in the loss of slow riffle stream habitat on the upper Sheyenne, and a loss of shallow and medium pool habitat on the lower Sheyenne River. Several fish species will be affected by the loss of habitat necessary for various life stages. Additionally, many of the affected fish species are known host fish necessary for mussel survival. The loss of these fish species may in turn affect mussel populations. The water quality in both the Sheyenne and Red Rivers will be degraded as a result of this project. The Service is concerned that degraded water quality from the project will have a negative impact on freshwater mussel populations in the river.

The Pelican Lake outlet plan will remove the freshest of the lake inflow to the Sheyenne River, thereby reducing the freshening effect the inflow has on the lake. This will result in a general decline of the water quality of the lake, and a hastening of the impact poor water quality has on the lake's aquatic biota. The riparian habitat along the Sheyenne River will suffer from an increase in overbank flooding for prolonged periods of time, resulting in a change in species composition and or loss of streambank vegetation along the riparian corridor.

The Department strongly encourages the management of the upper basin for the benefit of the lake in an effort to reduce the lake's inflow as much as possible. This includes effective upper basin water storage and the increase of water storage on public lands. Furthermore, an outlet operational plan must be developed within an interagency task force.

Pages A-235 to A-243, Volume 2 (Appendices A-D), Appendix A Hydrology, Hydraulics, and Water Quality, Section 8 – Upper Basin Storage Study:

The DEIS relies on an evaluation of the Devils Lake upper basin storage area (WEST Consultants, Inc., 2001) for the proposal to develop an outlet from the lake to the Sheyenne River. The evaluation indicates that wetland restoration can reduce the runoff entering Devils Lake, but suggests that the proposed outlet is necessary for reducing flooding of the lake and adjacent properties. The upper basin storage evaluation, however, seems conservative because it was not possible to identify all of the drained wetlands potentially available for restoration. Furthermore, studies by the Service (Johnson et al. 2002) indicate that the basin flood storage capacity estimates by WEST Consultants, Inc., are conservative and may result in significant discrepancies in detecting drained wetlands as candidates for restoration; the discrepancies may be attributed to differences in the methods used by West Consultants, Inc., and the Service to estimate basin storage capacity. Hence, the analyses in the DEIS may underestimate upper basin

water storage significantly. Although many of these wetlands are likely to have depths less than the 1.5-foot minimum considered by the Corps to be feasible candidates for restoration, wetland-flood-capacity data collected by the Department (Gleason and Euliss, unpublished data) indicate that small wetlands are numerous; collectively, they may add considerable flood storage capacity to the upper basin area of Devils Lake. The Department suggests that the upper basin storage analysis be reevaluated for consideration of the above-noted concerns.

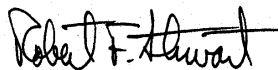
Page A-241, Section 8 – Upper Basin Storage Study, Alternative Analysis:

The Department has additional concerns regarding the assumptions and method WEST Consultants, Inc., used to estimate average runoff reduction in their model simulations. On page A-241, the DEIS states that the average runoff reduction estimate represents the difference between storage and evaporation in the restored wetlands and percolation and evapotranspiration in the soil area of the depression before restoration. Percolation is assumed to mean seepage; however, no evidence is provided to support that either of these processes would differ between restored and drained wetlands. Hence, the use of percolation when the wetlands were dry and not after they were restored does not appear to be justified. The basis of the Department's concern comes from research to understand prairie wetland hydrology from long-term hydrologic studies at the Cottonwood Lake Study Area in Stutsman County, North Dakota. Specifically, the DEIS is not clear on how wetland drainage altered the basic hydrologic function of drained wetlands along ground-water flow paths. Numerous areas throughout the glaciated prairie region exhibit ground-water flow through or discharge to wetlands, indicating that wetlands continue their hydrologic functions after they were drained and put into agricultural production. These drained wetlands can be readily detected in agricultural areas before crop establishment because ground-water discharges leave visible salt deposits on the surface of drained wetlands.

Furthermore, in the model simulation, it is not clear why evapotranspiration was accounted for when the wetland was dry after drainage, and only evaporation was used as water loss when the basins were restored. Restored prairie wetlands have well-developed plant communities (Knutsen and Euliss 2001) that would facilitate water loss from transpiration.

An additional statement on page A-241 (first paragraph after table, last sentence) adds confusion on how the simulation model was used to calculate average runoff reduction. The text, which refers to the average runoff reduction, states, "It does not represent the average evaporation from a depression, which was approximately 20 or more inches per year." It appears that the model did not account for a major water loss in the system; if this is the case, the omission of evaporation would suggest that the upper basin water storage was 5 to 6.5 times higher than the estimate in the table on page A-241.

Sincerely,



Robert F. Stewart
Regional Environmental Officer

REFERENCES:

- Johnson, R., Kjellsen, M, and Pool, D., 2002, Looking back to plan the future: Birdscapes, winter ed., p.22-23.
- Knutsen, G. A., and Euliss, N. H., Jr., 2001, Wetland restoration in the prairie pothole region of North America: A literature review: U.S. Geological Survey, Biological Resources Division, Biological Science Report, USGS/BRD/BSR—2001-0006, 54p.
- Van der Kamp, G., Stolte, W.G., and Clark, R.G., 1999, Drying out of small prairie wetlands after conversion of their catchments from cultivation to permanent brome grass: Hydrological Sciences, v. 44, no. 3, p. 387-397.



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 56, Room 1003
P.O. Box 25007 (D-108)
Denver, Colorado 80225-0007

May 7, 2002

ER 02/0208

Mr. David Loss
District Engineer's Office (PM-A)
St. Paul District, Corps of Engineers
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Mr. Loss:

The Department of the Interior has reviewed the referenced Draft Environmental Impact Statement (DEIS) and provides the following additional comments in response to the Corps of Engineers extension of time for comments.

We appreciate the opportunity to provide comments on the above referenced report and environmental impact statement (EIS). The Bureau of Reclamation (Reclamation) has a strong interest in the Corps of Engineers' draft Planning Report and EIS as they relate to Reclamation's authorized activities in North Dakota. Reclamation is initiating a Red River Valley Water Supply Study and EIS to assess available municipal, rural and industrial water sources, including the Sheyenne and Red Rivers. These comments relate directly to Devils Lake outlet alternatives and their downstream affects on surface water users. The manner in which these impacts are addressed in your planning report and EIS will affect how Reclamation addresses water quality and quantity issues in its Red River Valley Water Supply studies.

We have reviewed the subject report and offer the following comments:

1. The Abstract states that further coordination is needed to determine if outlet alternatives are in compliance with various environmental standards such as the Boundary Waters Treaty of 1909 and the Clean Water Act, and that supplemental NEPA documentation will be required to further define and evaluate the operational impacts of an outlet. Given that Boundary Waters Treaty and Clean Water Act compliance are critical issues in this EIS, it is difficult to assess the environmental impacts of the alternatives at this time without a determination of whether outlet alternatives are in compliance with the Boundary Waters Treaty of 1909 and the Clean Water Act.

2. Pages 3-4 to 3-6: The uncertainty regarding the climatic future and how that affects the lake level probabilities in the stochastic analysis should be discussed in more detail. For example, how would the analysis change if a drier or wetter period than 1980-1999 were used as a baseline for simulating the next 15 years?

3. Page 3-9, third paragraph. The State of North Dakota's temporary outlet was *not* considered in the No Action alternative. Given that the State is currently planning this outlet, the Department recommends that the state project be considered as a reasonably foreseeable action or that further information be provided that documents the reasons why it will not be implemented.

4. Page 3-23, Table 3. The table indicates that only under West Bay 480 cfs, Pelican Lake-1 480 cfs, and East Lake 480 cfs alternatives are there any costs associated with Downstream Water Treatment Plant Upgrades. However on page 5-43 (second paragraph under Downstream Water Users), it states that the total annualized cost for capital improvements or alternative source water development (for Phase II ion removal costs) is \$1,757,000 to \$3,304,000 for the preliminary outlet. These costs should be included in Table 1 for all Pelican Lake Outlet alternatives. It appears that the COE made the assumption that if TDS levels were limited to 450 mg/l then there would be no downstream impacts to water treatment plants due to deteriorating (TDS) water quality. Yet in the COE "Downstream Surface Water Users Study" it appears that the assumption in the Phase II analysis was to estimate the costs of reducing the TDS levels to the non-outlet condition. The "Downstream Surface Water Users Study", while not providing the specific capital improvement costs, documents that the downstream surface water systems will require capital improvements in the \$10 to \$20 million range to maintain their finished water quality if an outlet is built. Why are these costs not included in each of the outlet alternative construction costs?

The "Downstream Surface Water Users Study" did not provide a breakdown of capital construction and O&M costs for Phase II (TDS) water quality impacts of a Devils Lake outlet. However, Table 3 on page 3-23 did provide some capital construction data for some of the outlet alternatives. Where did the water treatment plant upgrade capital construction cost data in Table 1 originate?

The "Downstream Surface Water Users Study" did not include the cost of brine disposal in the Phase II (TDS) cost estimates for ion removal. Brine disposal can be a significant operation and maintenance cost and should be included in the costs presented in the final outlet report.

5. From a NEPA standpoint, the No Action alternative is not clearly defined. Specifically, is continued infrastructure protection part of No Action?

6. In Chapter 4, the analysis of water quality effects of an outlet is focused almost entirely on numeric water quality standards. Do the outlet alternatives violate narrative (anti-degradation) standards, and if so, what are the environmental and legal/regulatory consequences?

7. On page 5-92, *Garrison Diversion Unit measures including irrigation* is listed as a reasonably foreseeable action for the cumulative effects analysis. Garrison Diversion Unit irrigation in the Hudson Bay drainage is prohibited under the Dakota Water Resources Act (Public Law 106-554), and therefore should not be considered a potential cumulative effect.

8. The biota transfer mitigation described on page 5-100 does not describe how operation of the outlet would change if harmful biota were detected in Devils Lake.

If there are any questions regarding the above comments, please contact Richard Nelson, of our North Dakota Area Bureau of Reclamation Office at (701) 250-4242, extension 3600.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert F. Stewart". The signature is fluid and cursive, with a horizontal line extending from the end.

Robert F. Stewart
Regional Environmental Officer

Letter of Comment – NOAA



UNITED STATES DEPARTMENT OF COMMERCE
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

March 28, 2002

District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Mr. Loss:

Enclosed are comments on the Draft Environmental Impact Statement for Devils Lake, North Dakota, Study North Dakota. We hope our comments will assist you. Thank you for giving the opportunity to review this document.

Sincerely,

for Margaret R. McCall
Scott B. Gudes
Deputy Under Secretary
for Oceans and Atmosphere

Enclosure



Printed on Recycled Paper



MEMORANDUM FOR: Margaret McCalla
Acting Director, Office of Policy and Strategic Planning

FROM: Charles W. Challstrom
Director, National Geodetic Survey

SUBJECT: DEIS-0203-05 Devils Lake, North Dakota, Study North Dakota

The subject statement has been reviewed within the areas of the National Ocean Service (NOS) responsibility and expertise and in terms of the impact of the proposed actions on NOS activities and projects.

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the National Geodetic Survey's home page at the following Internet World Wide Web address: <http://www.ngs.noaa.gov> After entering the this home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the National Geodetic Survey data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about geodetic control monuments, please contact Rick Yorczyk; SSMC3 8636, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; telephone: 301-713-3230 x142; fax: 301-713-4175, Email: Rick.Yorczyk@noaa.gov.

United States Department of Agriculture



Natural Resources Conservation Service
P.O. Box 1458
Bismarck, ND 58502-1458

April 16, 2002

District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, MN 55101-1638

RE: Draft Integrated Planning Report and Environmental Impact Statement for Devils Lake,
North Dakota.

Dear Mr. Loss:

This letter is in reply to your draft report dated February 2002, regarding the reference activity. The Natural Resources Conservation Service (NRCS) addresses impacts to wetlands and prime farmlands at the field office level.

The draft report identifies alternatives to address flooding problems associated with the rising levels of Devils Lake in North Dakota and the relevant consequences of implementing various alternatives. It does not contain a recommended plan at this time, but instead provides an array of alternatives along with their associated risks and consequences so as to facilitate open discussion. The draft report serves as a vehicle for continued public input into the project. It is the attempt of the draft report to assure that all alternatives are considered and a clear understanding of the full range of issues is presented. Since the draft report does not contain a recommended plan with specific actions to be taken, NRCS has few comments at this time.

NRCS has provided assistance to landowners surrounding Devils Lake through implementation of the Emergency Watershed Protection (EWP) floodplain easement program since July 1997. Through EWP, NRCS is authorized to purchase floodplain easements on lands that have serious recurring flooding problems. The EWP program is designed to reduce threats to life and property in the wake of natural disasters such as floods and fires. Floodplain easements restore, protect, maintain, and enhance the functions of the floodplain; conserve natural values including fish and wildlife habitat, water quality, flood water retention, ground water recharge, and open space; reduce long-term Federal disaster assistance; and safeguards lives and property from floods, drought, and the products of erosion. To date, we have developed 13 permanent EWP conservation easements covering 2,780 acres in Benson and Ramsey Counties.

Upper basin storage is one of the nonstructural alternatives that has been identified and discussed in the draft report as part of the solution to help alleviate Devils Lake flooding. Several other USDA programs are currently available to assist in watershed restoration work. For example, the Wetlands Reserve Program (WRP) and the Conservation Reserve Program (CRP) can provide long lasting benefits in restoring degraded wetland basins and reducing runoff from a watershed. NRCS administers and provides technical assistance for WRP. CRP is administered by the Farm Service Agency and NRCS provides technical assistance.

The Natural Resources Conservation Service provides leadership in a partnership effort to help people
Conserve, maintain, and improve our natural resources.

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District Engineer
Page 2

NRCS appreciates the opportunity to be involved in the review of the proposed project. We would like to remain a part of this review process. When a recommended plan is selected, we will then be able to provide additional information and comments pertaining to wetland and prime farmland impacts.

Thank you for the opportunity to review and comment on this project. Should you require additional information, please contact Brad Podoll at (701) 530-2096.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas E. Jewett", written over a horizontal line.

THOMAS E. JEWETT
State Conservationist

cc: Becky Clow, DC, NRCS, Devils Lake, ND
Kevin Neve, DC, NRCS, Minnewaukan, ND
Joanne Kuykendall, DC, NRCS, Lakota, ND
Jack Russell, ASTC(FO), NRCS, Devils Lake, ND

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May 6, 2002

Dave Loss
Project Manager, Devils Lake PM-A
US Army Corps of Engineers
St. Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

Dear Mr. Loss:

Re: Comments on the Devils Lake Integrated Planning Report and Environmental Impact Statement

Thank you for the opportunity to provide comments on the February 2, 2002 Draft Integrated Planning Report and Environmental Impact Statement (EIS), being developed in accordance with the National Environmental Policy Act (NEPA), to address flooding problems in Devils Lake, North Dakota.

The attached comments were developed by Environment Canada in consultation with Manitoba Conservation and with other federal agencies, including Fisheries and Oceans Canada, and are respectfully submitted. These comments build on previous remarks provided to your agency in 1997 and 1998 on the scoping process and in 2001 on the Statements of Work under the present process.

As mentioned in this previous correspondence, the provision of these technical comments does not constitute consultation with the United States about this project and does not address Government of Canada broader policy issues that exist with the proposed project.

After a thorough review of the EIS by Canadian experts, it is our conclusion that construction of an artificial outlet cannot be justified and that operation of an artificial outlet would likely violate the Boundary Waters Treaty of 1909. Moreover, we find it most disappointing that your agency continues to use the wet scenario approach to potentially support construction of an artificial outlet. This wet scenario approach, as acknowledged in the EIS, has a zero probability of actually occurring in the manner depicted and has no scientific basis. We would, therefore,

encourage your agency to present only information in the final EIS based on evaluation methods and approaches currently approved for project evaluation and that are well-established in the scientific community.

Again, we thank you for the opportunity to comment on the EIS.

Sincerely,

R. L. Kellow
Executive Director

Attachment

cc D. Williamson, Manitoba Conservation
 D. Wright, Department of Fisheries and Oceans
 J. Cooper, Environment Canada
 J. Vollmershausen, Environment Canada
 M. Fisher, Department of Foreign Affairs and International Trade

Joint Canadian Comments
on the
Draft Integrated Planning Report
and
Environmental Impact Statement
Devils Lake, North Dakota
Prepared by the U.S. Army Corps of
Engineers
February 2002

Respectfully Submitted by:

Environment Canada;
Fisheries and Oceans Canada;
and
Manitoba Conservation

May 6, 2002

EXECUTIVE SUMMARY

The Draft Integrated Planning Report and Environmental Impact Statement (EIS) prepared by the U.S. Army Corps of Engineers (the Corps) for flood relief in Devils Lake, North Dakota has been reviewed by Environment Canada¹, Fisheries and Oceans Canada¹, and Manitoba Conservation. Comments are respectfully submitted on behalf of all three agencies. Canada and Manitoba express their gratitude for the opportunity to participate in this review and in the scoping process that led to the present document. Scoping comments were provided to Mr. Robert Anfang of the Corps' St. Paul District on April 20, 2001. Previous scoping comments were submitted on October 21, 1997, December 22, 1997, and August 27, 1998. All such comments are incorporated herein by reference.

All parts of the EIS reports were reviewed. However, the focus of the following comments is largely on those areas where deficiencies could lead to an improper selection of an alternative that would adversely affect Manitoba's and Canada's environment and natural resources. Canada and Manitoba are particularly concerned about the need to ensure that any outlet is consistent with the Boundary Waters Treaty of 1909 (BWT) and about the risks entailed by the potential of the outlet to transfer alien and invasive species into the Hudson Bay basin. In our judgement, it is thus essential that the Corps fully analyze all potential impacts on Canada's and Manitoba's environment and natural resources in accordance with the guidance from the Council on Environmental Quality (CEQ) set out in its July 1, 1997, Memorandum to Heads of Agencies on the Application of the National Environmental Policy Act to Proposed Federal Actions in the United States with Transboundary Impacts. Among other things, this must include full consideration of measures to ensure compliance with Executive Order 13112 (64 *Fed. Reg.* 6183, Feb. 3, 1999, control of invasive species).

We have identified a large number of significant deficiencies in the EIS. These are summarized below. Nevertheless, it appears that sufficient information is presented in the EIS to indicate that an artificial outlet could not be operated without a high probability of violating Article IV of the BWT and that significant injury could occur to the environment and natural resources in Canada and Manitoba.

After careful review of the EIS, it is our conclusion that construction and operation of an artificial outlet from Devils Lake cannot be justified on any ground. Continued infrastructure protection measures within the Devils Lake basin appear to offer the greatest financial benefit with the least environmental impact.

In addition, Canada and Manitoba have serious questions about the justification for the project. While the EIS indicates that an artificial outlet cannot be justified on the basis of established economic and engineering approaches, it does suggest that an outlet may be warranted as an "insurance policy" for the region in the unlikely event of natural overflow. This approach is unfair and unjustified, since the project would produce significant known injuries, as

¹ The technical comments provided by Environment Canada and Fisheries and Oceans Canada do not represent the position of Canada on broader policy concerns associated with the proposed project nor do the provision of these comments constitute consultation by Canada.

identified in the EIS, in the downstream environment, including Canada and Manitoba beginning immediately following construction, but only produce uncertain and limited relief to the Devils Lake region for a highly unlikely and remote, future event.

Substantial work remains to complete the EIS in a manner that would satisfy conditions imposed by Congress in the Energy and Water Development Appropriations Acts of 1998, 1999, 2000, and 2001 (PL 105-62, PL 105-245, PL 106-60, and PL 106-377, respectively) to allow construction to proceed. Congress directed that the project should be technically sound, economically justified, environmentally acceptable (including National Environmental Policy Act (NEPA) compliance), comply with the BWT, and not be used to transfer water from the Missouri River. It is Canada's and Manitoba's view that, on the basis of the EIS, the first four conditions at least have not been met. Furthermore, it is Canada's and Manitoba's view that completion of this required work would likely identify additional costs, additional injuries to the Canadian environment, and fewer benefits for the people of the Devils Lake region. Therefore, our conclusion that an artificial outlet cannot be justified would likely remain unchanged with additional studies.

Water Quality

Canada and Manitoba are concerned that the Corps' water quality modelling indicates that operation of an artificial outlet would cause an increased (50 %) frequency of exceedances of the water quality objectives that the International Joint Commission (IJC) established at the international boundary. The EIS itself acknowledges (at p. 5-65) that this would likely constitute a violation of the BWT. Elsewhere, the EIS notes that downstream of the project "many constituent levels would be dramatically increased over baseline conditions" (p. 5-50). Of particular concern are levels of total dissolved solids (TDS) and sulphates. Furthermore, it appears that the water quality model may underestimate peak concentrations by as much as 40 %, thus causing an underestimation of impacts. Lastly, a number of major water quality issues, such as mercury, phosphorus, and nitrogen, have not been assessed in sufficient detail.

Biota Transfer

Biota transfer remains a significant concern to Canada and Manitoba. The limited assessment that was completed indicates that the "available information is inadequate to allow conclusive statements to be made regarding all aspects of biota transfer" (p. 5-61). However, the EIS appears to conclude that biota transfer is not a significant risk. This conclusion is not supported by scientific evidence, and in fact, is contradicted in many places throughout the EIS. The background supporting studies conducted for the Corps indicate "Perhaps the most important finding of this study was the revelation of just how poorly the biota of the Devils Lake basin and (to a somewhat lesser extent) the Red River basin are known" (at p. v of the Biota Transfer Study, prepared by Peterson Environmental Consulting, Inc., January 29, 2002). Furthermore, the EIS acknowledges (at p. 5-61) that "[i]t is not certain whether any known exotic, invasive species are now present in Devils Lake". The EIS should more correctly conclude that, given the present limited understanding of biota in the Devils Lake basin, there remains a significant risk

of transfer of harmful, aquatic nuisance species coincident with construction and operation of an artificial outlet to Devils Lake.

Impacts to the Canadian Environment and Natural Resources

Canada and Manitoba are concerned that the environment and natural resources have not been adequately identified in the Canadian portion of the Red River basin and Lake Winnipeg, and therefore, potential injuries have not been assessed. This is directly contrary to the July 1, 1997 CEQ guidance on the application of NEPA to Federal projects with transboundary impacts. Yet, as acknowledged in the EIS, there are significant downstream resource concerns. For example, in addition to the water quality and biota transfer risks mentioned above, transfer of toxic algae "could cause substantial problems downstream," while "salinity and nutrient changes" could also result in "community composition changes" in these waters (p. 5-61). These need to be thoroughly explored as they relate to the Canadian environment.

Reference is also made to the need to "coordinate" with Canada prior to operation to ensure compliance with the BWT. Sufficient information has been presented to conclude that there is a high probability that the BWT will be violated by operation of an artificial outlet. Furthermore, consultations between the United States and Canada related to compliance with the BWT are critical to the decision-making process under the NEPA and are required to satisfy conditions imposed by Congress. Thus, additional assessment related to compliance with the BWT and consultations with Canada cannot be characterized as "coordination", and must be completed prior to decision-making, and fully analyzed under NEPA, rather than be completed prior to "operation" and after the close of the Corps' NEPA review.

Insufficient Evaluation of all Reasonable Project Alternatives

Under NEPA, the evaluation of alternatives must be the "heart" of the EIS (40 C.F.R. § 1502.14(a)). The Corps is required to "[r]igorously explore and objectively evaluate all reasonable alternatives." *Id.* Canada and Manitoba are concerned that all reasonable alternatives have not been fully explored and evaluated. In particular, the EIS places much greater emphasis on analyzing options involving construction and operation of an artificial outlet, whereby benefits accrue to the Devils Lake region, but costs accrue to the downstream environment, rather than fairly assessing options involving upper basin storage, whereby both benefits and costs accrue within the same region. Furthermore, the Corps' analysis of upper basin storage options is incomplete and confounded by a number of significant flaws, including underestimating available potential storage and failing to scientifically determine benefits through a detailed, basin-wide water balance.

Lack of Scientific Support for the 'Wet Future' Approach and Resulting Distortion of Benefit-cost Analysis

In its scoping comments of April 20, 2001, Environment Canada urged that the Corps subject its climatological modelling assumptions to rigorous, outside peer review to ensure that such assumptions are scientifically supportable. Canada and Manitoba are concerned that there is

in fact no demonstrated concurrence within the scientific community that supports the basis for the Corps' constructed "wet-future" scenario approach. As stated by the Corps, the probability of this constructed "wet-future" scenario actually occurring in the manner described is zero, but the scenario was developed simply to force sufficient water into Devils Lake to cause overflow. This approach is inconsistent with established engineering practices and with National Economic Development Principles and Guidelines. Furthermore, the stochastic approach is biased towards a wet future through the selection of a short and recent period of meteorological data. In addition, as unlikely as the constructed "wet-future" scenario is, it is even more unlikely that it would be restricted to the immediate Devils Lake basin. Any unlikely phenomenon that would significantly alter weather patterns to create overflow would almost certainly affect the entire region, requiring enhanced flood protection for numerous other communities even without natural overflow, and reducing the number of days that pumping could occur due to bank-full conditions in the Sheyenne River. However, benefit-cost analysis and pumping scenarios are distorted with the implicit assumption that weather patterns would be wet in the Devils Lake region and normal in the downstream region.

Failure to Undertake Commitments Identified in the EIS Scoping Document

Canada and Manitoba are concerned that a number of issues identified in the EIS scoping process, such as mercury, have either not been addressed or have only superficially been addressed due to the lack of data collection for the EIS. In particular, despite representations made during the scoping process, the Corps has not attempted to assess in detail project compliance with the BWT.

Cumulative Impacts

Canada and Manitoba are concerned that reasonably foreseeable future projects in the region, in combination with an artificial outlet, would cause greater injuries - and injuries that cannot be mitigated - than if implemented separately. It is inevitable that water levels will begin to decline in Devils Lake, with or without an artificial outlet, and that pressure will resume to construct an inlet from the Missouri River. This would complete the water management vision for the region that has long included the goal of stabilizing water levels in Devils Lake. Cumulative impacts from an outlet combined with an inlet would be considerably greater than with only an outlet and, therefore, need to be fully assessed.

Mitigation

Canada and Manitoba are concerned not only with the many deficiencies in the EIS, but also that monitoring is recommended as the principal strategy to mitigate injuries. Many injuries, such as those accruing from the transfer of aquatic nuisance species, cannot be mitigated. Indeed, the EIS itself acknowledges (at p. 5-56) that "[n]o mitigation feature can be said to be 100 percent effective in eliminating the risk of biota transfer." Monitoring cannot be construed as mitigation.

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PRINCIPAL ISSUES

(1). Water Quality

- (a). On p. 3-7, reference is made to water quality objectives established on the Red River at the United States - Canada boundary by the IJC pursuant to the BWT. It is also emphasized that these are "objectives" and not "standards". The following additional description should be provided to identify the context and intended application of these objectives. Article IV of the BWT states that "...boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other". Water quality objectives established by the IJC on the Red River at the boundary are intended to assist in judging when pollution may be injurious to health or property. To this end, the International Red River Board uses the objectives to "restore and maintain the chemical, physical, and biological quality of the Red River", and uses the objectives "when it is necessary to secure government commitment to pollution abatement action". It is important to note that the IJC's objectives are the same as or similar to water quality standards used by Minnesota and North Dakota, and water quality standards, objectives, or guidelines used by Manitoba to protect human health, property such as aquatic habitat, and beneficial water uses such as recreation. They, therefore, reflect realistic science- and health-based commitments by the governments of the United States and Canada through the IJC to protect the health and property of the downstream jurisdiction from pollution.

Furthermore, the Directive from the IJC to the International Red River Board states that the Board should "[m]aintain continuing surveillance and perform inspections, evaluations and assessments, as necessary, to determine compliance with objectives agreed to by governments for water quality, levels and quantity in the Red River basin," and "[e]ncourage the appropriate regulatory and enforcement agencies to take steps to ensure that agreed objectives are met."

It is clearly envisaged through this international mechanism that the objectives were established to protect the health and property of the downstream country, that they were intended to be complied with, and that administrative mechanisms were established to assure compliance. Thus, projects that are approved that knowingly cause exceedances of these objectives or cause an increased frequency of exceedance would likely constitute violation of the BWT.

- (b). In addition to the IJC's objectives described on p. 3-7 and those previously described for North Dakota and Minnesota, the equivalent Manitoba Water Quality Standards, Objectives, and Guidelines need to be described in a more complete manner.
- (c). Downstream water quality impacts are discussed beginning on p. 4-17. Several points should be expanded in the discussion.

- (i). Modelling predicts that the IJC's water quality objective for TDS in the Red River at Emerson would be exceeded 50% more often under the preliminarily selected outlet plan than under the base condition. This would likely represent a violation of the BWT.
- (ii). As stated on page A-69, it is acknowledged that the method used to model water quality under estimated concentrations, especially at sites distant from the Devils Lake outlet such as the international boundary. This is evident in Table 7 on p. A-80 where the modelling simulations under estimated most measures of upper data distributions beginning with the 50th percentile with some being under estimated by 40 %. This implies that the current model has either not been properly calibrated or is unable to reproduce these naturally occurring measured high concentration events. Thus, it is conceivable that actual impacts will be even greater than predicted.

Furthermore, under Pelican Lake alternative PL-1, water quality would become progressively poorer each year of operation due to the interconnection with the main body of Devils Lake. This progressive deterioration of water quality has not been shown in the modelling but would be expected to result in an increasing frequency of exceedances each additional year of outlet operation. This same phenomenon would occur under West Bay pumping alternatives as well.

- (iii). The EIS properly references Manitoba's Nutrient Management Strategy and notes that work is underway to identify appropriate water quality objectives for nitrogen and phosphorus, that trends are being assessed, that point sources are being identified, and that implementation plans will be developed to secure reductions where necessary. In addition to the reference included in the report (p. 4-25) that about 35% of the annual phosphorus load to Lake Winnipeg originates from the United States, it should be noted that recent trend analysis has indicated that total phosphorus increased by 22.5% between 1978 and 1999 at the international boundary (Jones and Armstrong (2001) "Long-term Trends in Total Nitrogen and Total Phosphorus Concentrations in Manitoba Streams". Water Quality Management Section, Manitoba Conservation). It is estimated that this statistically significant increase represents, on average, an additional 203.9 tonnes/year of phosphorus being contributed from the United States portion of the basin in 1999 relative to 1978 (Bourne, Armstrong, and Jones (2002), "Total Nitrogen and Total Phosphorus Loadings from Point and Non-Point Sources to Manitoba Streams", in prep, Water Quality Management Section, Manitoba Conservation). It is identified on p. 4-25 that the preliminarily selected outlet plan would add 40 metric tonnes/year of phosphorus to the Red River system and would cause an increase in the total load of phosphorus at the international boundary of another 2.1% (or another 19.6% relative to the existing increase). It is incorrectly stated that the impacts arising from this increase would be "negligible and imperceptible". The impacts that this additional phosphorus load may have on Lake Winnipeg should be discussed in more detail (*e.g.*, depending

on limiting factors, 1 kg of available phosphorus can theoretically produce up to about 12 metric tonnes of algae).

- (d). For the purpose of the benefit-cost analysis, costs should be included for treatment technologies to remove phosphorus from the discharged water or to remove an equivalent 40 tonnes/year of phosphorus from another existing discharge to the Red River, thus creating no net increase. If the latter mitigative measure is selected, information should be provided to identify how this may affect future actions should the entire increased load of 203.9 tonnes/year needed to be removed from discharges to the U.S. portion of the Red River basin.
- (e). While phosphorus is discussed, although not in sufficient detail, there is no discussion of nitrogen or carbon. Both are also essential nutrients that need to be discussed in detail.
- (f). Overall, the water quality section is deficient in a number of significant regards.
 - (i). A number of water quality variables were identified to the Corps during the scoping exercise but were not considered. Of most importance is mercury. Canadian studies (*e.g.*, Bodaly, R.A., R.E. Hecky, and R.J.P. Fudge. 1984. "Increases in fish mercury levels in lakes flooded by the Churchill River Diversion, Northern Manitoba." *Can. J. Fish. Aquatic Sci.* 41:682-691) have shown that newly flooded soils can have the effect of altering methylation-demethylation rates favouring the prevalence of organic methyl mercury rather than inorganic forms. A shift to higher concentrations of organic methyl mercury may have occurred in Devils Lake by this mechanism. Organic mercury is much more readily bioaccumulated in fish tissue than inorganic mercury. Data indicate that this organic mercury can be transported downstream either in fish food organisms or in the water column. While mercury is identified as an issue at the present time in Red River fish, there is no discussion in the EIS of the impact that additional mercury from Devils Lake may have on these fish, human health, or the sport or commercial fishery.
 - (ii). Other important water quality variables not discussed include dissolved organic carbon (and its impact on drinking water treatment systems and on eutrophication in Lake Winnipeg), arsenic, and boron.

(2). **Biota Transfer**

- (a). The section on Biota Transfer (p. 5-27) contains many contradictory statements. The overall impression conveyed by the description is that biota transfer is not a risk; this is not supported by fact. It is indicated on p. v of the background support document (Biota Transfer Study, January 29, 2002 prepared by Peterson Environmental Consulting, Inc.) "Perhaps the most important finding of this study was the revelation of just how poorly the biota of the Devils Lake basin and (to a somewhat lesser extent) the Red River basin are known". As a result, this section in the EIS should be re-written. Because of the

extremely significant potential consequences to the downstream environment, particularly within Lake Winnipeg, it cannot be concluded, as stated in the opening sentence that “[a]ll of the biota in the Devils Lake basin are either known or considered likely to be present in the Red River basin”. Rather, on the basis of information provided by Peterson Environmental Consulting Inc. (*id*), it can only be concluded that “available information was inadequate to allow conclusive statements to be made regarding all aspects of biota transfer” (p. vii). In addition, this report states on p. 141 that:

Substantial data gaps were encountered in a number of taxonomic groups. As a result, it is impossible to state definitively that all species currently in Devils Lake have been accounted for. To the contrary, it is likely that Devils Lake does harbor species that have not been analyzed in this study. Accordingly, there may be additional PBOC [Potential Biota of Concern] species that are currently unknown at this time. It is more likely, however, that many species not documented in either the Devils Lake or the Red River basin are actually present in both. Further field investigations in both the Devils Lake and Red River basins would be necessary to render a more definitive analysis of this question.

It is surprising that no effort was made to undertake a comprehensive field investigation of the biota in Devils Lake since an outlet has been considered for a long period of time and it has been well known that the issue of biota transfer is a significant issue of concern for Manitoba and Canada.

- (b). Furthermore, with regard to striped bass, a large, aggressive predator that is potentially present in Devils Lake through stocking and not elsewhere in the Red River basin, there is still the possibility that adults exist in Devils Lake that could potentially reproduce. Should this species escape to the Red River, Lake Winnipeg, and their tributaries, through an artificial outlet, serious consequences could arise. Peterson Environmental Ltd. could not state definitively that striped bass are not present in Devils Lake. The following overview is provided on p. 64 of the Peterson Environmental Ltd. report:

Striped bass in Devils Lake may be very scarce. This species was introduced to Devils Lake in 1977, when approximately 13,000 fingerlings were stocked (Steinwand et al. 1996). An estimated 30,000 hours of netting effort have been spent during spawning seasons on Devils Lake from 1977 through 1991. These efforts have resulted in the capture of only one striped bass (Steinwand et al. 1996). Three additional striped bass have been submitted by anglers for “whopper club” status, the most recent being June 1993 (Steinwand et al. 1996). These data indicate that the Devils Lake striped bass population is very small. The population of striped bass in Devils Lake may consist of a few adult fish remaining from the original stocking in 1977. Reviews by Setzler et al. (1980) and Crance (1984) report specimens of striped bass that were in excess of 30 years old, with historic accounts of much larger fish that were presumably even

older. Any survivors from the original Devils Lake stocking would now be 24 years old, well within reported age limits. Assuming there has been no natural reproduction, then only the occasional large adult striped bass would be expected in the future. These fish would be very large and easy to detect. However, they would be very uncommon.

It was recently thought by North Dakota Fish and Wildlife fisheries biologists that the European zander was similarly no longer present in nearby Spiritwood Reservoir. However, in 2000, definitive DNA evidence indicated that, unknown to biologists, adults had survived and had reproduced, and potentially could have been transported to downstream water bodies through discharges from the reservoir.

- (c). It is further stated on p. 5-28, similar to the opening sentence, "The biota of the Devils Lake basin and the Red River basin are similar, and Devils Lake does not harbor any species that are not already present in the Red River basin." Because of the substantive data gaps identified by Peterson Environmental Ltd., this statement cannot be supported by evidence and should be deleted. Furthermore, the last sentence of this paragraph states "Additionally, there is a risk of biota transfer from natural causes and recreational users". Although it is not clear why this last statement is included, without qualification it could be interpreted to minimize concern with biota transfer related to the project since other vectors also exist. This sentence should either be qualified or deleted. The EIS is intended to identify and to assess risks associated with the project. Other risks not associated with the project are not relevant and should not be included, unless discussed in the context of a cumulative risk. Similarly, the last paragraph in this Section should be deleted because information on "...the multitude of wetlands and small lakes and tributaries ... in eastern North Dakota..." (p. 5-28) is not relevant unless they too are being proposed to be artificially drained as part of the project.
- (d). Of equal or greater risk to the transfer of species presently in Devils Lake to the downstream environment is transfer that may occur in the future through the enhanced interconnectedness associated with the artificial outlet. Because Devils Lake is an important recreational fishery for North Dakota, there is greater potential that exotic species like the zebra mussel will be accidentally transported to Devils Lake. The enhanced interconnectedness due to the outlet will allow most species to be easily transferred to downstream water bodies such as the Canadian portion of the Red River and Lake Winnipeg. Monitoring has been shown to be ineffective in detecting most invasive species sufficiently soon to prevent dispersion and, once a new habitat becomes invaded, mitigation is not possible.

Biota transfer issues are correctly stated on p. 5-56 in that "[t]here is an increased risk of the transfer of biota or the increase in the distribution of existing organisms associated with any feature that improves the connectivity between systems that have been segregated for many centuries. The operation of the outlet would be considered such a feature." This conclusion needs to be given much greater prominence in the report. This statement is critical to ultimate decision-making.

- (e). Numerical modelling studies have shown that channel velocities can be greatly enhanced due to increased flows during the open water period. This additional flow would support enhanced mobility of aquatic nuisance species during the period of time when higher plant and animal growth and activity are also occurring.
- (f). It is correctly reported at p. 5-63 that one of the impacts of the artificial outlet may be to transport existing invasive species such as the Eurasian milfoil from its existing limited distribution in the Sheyenne River to downstream habitats.
- (g). Since Devils Lake was essentially dry in 1940, most vertebrates in the lake were stocked. The EIS does not list the species and sources of the fish stocked in lake. Both Federal and State agencies should have records on fish stocking.
- (h). On p. 5-100, it is stated that "biotic monitoring programs could also be enacted to create an alert system that would be triggered if exotic species are found in Devils Lake ...". Should invasive species be found in Devils Lake, there is no mention of actions that would be implemented. The only feasible course of action would be to immediately discontinue pumping and to permanently disable the artificial outlet. This outcome is highly probable and should be factored into the benefit-cost analysis.
- (i). Executive Order 13112 (64 *Fed. Reg.* 6183, Feb. 3, 1999) requires that Federal agencies "not authorize, fund, or carry out actions that it believes are likely to cause the introduction of invasive species in the United States or elsewhere" unless "all feasible and prudent measures to minimize risk of harm will be taken." Although these obligations are qualified by the phrases "to the extent practicable" and "within Administration budgetary limits," this Executive Order imposes an obligation on the Corps to minimize the risks of the spread of invasive species to Canada. At a minimum, the implications of Executive Order 13112 have to be assessed under NEPA. However, mention of Executive Order 13112 could not be found in the EIS. The EIS contains little analysis of feasible and prudent measures to eliminate the risk of transfer of invasive species.

(3). Impacts to the Canadian Environment and Natural Resources

- (a). As Environment Canada explained at some length in its April 20, 2001, scoping comments, the Corps has an obligation pursuant to the CEQ's July 1, 1997, policy guidance to examine the transboundary impacts of its actions under NEPA. The EIS acknowledges that, in addition to water quality and biota transfer risks, the project could result in toxic algae causing downstream problems and in "salinity and nutrient changes" resulting in "community composition changes" in downstream waters (p. 5-61). However, in contrast to the fairly complete description of out-of-stream water use from the Canadian portion of the Red River on p. 2-22, description of natural resources and the environment in the Canadian reach of the Red River and Lake Winnipeg is absent on p. 2-21. Since these resources are at risk from this project, they similarly need to be accurately

identified, including rare and endangered aquatic species. The following draft overview from the October 2001 Information Bulletin (<http://www.gov.mb.ca/conservation/transboundary/positions/man-position/ib000403.html>) may be helpful:

Over 23,000 permanent residents living in 30 communities along the shore of Lake Winnipeg depend upon the lake's fishery as a food source. The majority of these residents are Aboriginal with over 9,000 being First Nations.

Each year, there are approximately 800 commercial fishers licenced to operate on Lake Winnipeg, catching a variety of species including world-class pickerel, goldeye, sauger, whitefish, plus others. Commercial fishers also directly employ another approximately 150 persons to assist with fishing operations. The annual direct value of the landed catch is approximately \$15 million (Canadian). For many involved in the commercial fishing sector, this is their only source of income. Lake Winnipeg accounts for approximately 50 % of the total commercial fish harvest from Manitoba.

Sport anglers spend another \$10 to \$15 million (Canadian) annually in this region. The Red River is the single most important sport fishing destination in Manitoba and accounts for nearly 20 % of the total value of this \$80 million (Canadian) industry to Manitoba's economy. In addition, there is an important bait fish harvest in the Red River and the south basin of Lake Winnipeg that returns about \$200,000 (Canadian) annually to licenced fishers.

The total direct and indirect annual value of the Lake Winnipeg and Red River commercial and sport fishery to the Manitoba economy is nearly \$50 million (Canadian).

The Red River corridor and Lake Winnipeg serve as a valuable attraction for local, national, and international tourists including residents of the United States. The beach communities of Gimli and Grand Beach attract hundreds of thousands of visitors each summer. Grand Beach has been ranked as one of the top 10 beaches in North America.

Annual total tourism expenditures are approximately \$110 million (Canadian) within this region of Manitoba. The total direct and indirect annual value of the tourism industry to the Manitoba economy is approximately \$1.8 billion (Canadian).

- (b). In terms of aquatic species at risk that may be endangered or threatened, the following information should be listed.

Fishes that are not completely secure in Manitoba and that could be at risk from environmental impacts include:

<u>Common Name</u>	<u>Designation</u>	<u>Common Name</u>	<u>Designation</u>
*Chestnut Lamprey	S3/S4	Horneyhead Chub	S2
Silver Lamprey	S3	River Shiner	S3
Slimy Sculpin	S4	Bigmouth shiner	S3
Spoonhead Sculpin	S3	Rosyface Shiner	S1
Deepwater Sculpin	S3	Bluntnose Minnow	S2/S3
Lake sturgeon	S2/S3	Silver Chub	S3
Brassy Minnow	S4	Spotfin Shiner	S4
Bigmouth Buffalo	S4	Flathead Chub	S4
Golden Redhorse	S4	Channel Catfish	S4
Banded Kilifish	S1		

<u>Designation</u>	<u>Description</u>
*S1	Very Rare; typically 5 or fewer occurrences in Manitoba.
S2	Rare; Typically 6 to 20 occurrences in Manitoba.
S3	Usually between 20 and 100 occurrences in Manitoba, may have few occurrences but many individuals.
S4	Widespread, abundant, and apparently secure in Manitoba, but of long-term concern.

Mussel species that are present in the Red River that could be at risk include:

<u>Common Name</u>	<u>Common Name</u>
Threeridge	Pink Heelsplitter
Wabash Pigtoe	Giant Floater
Mapleleaf	Creeper
White Heelsplitter	Black Sandshell
Pocketbook	

- (c). It is stated on p. 1-S-13, p. 5-65, and elsewhere that transboundary impacts have been identified at the Canadian boundary and that "coordination" must be completed to determine compliance with the BWT. The EIS also states: "This coordination will be conducted between the U.S. State Department and Canada and completed prior to operation." However, as noted above, sufficient information has been presented in the EIS to indicate that impacts to the Canadian portion of the Red River Basin and to Lake Winnipeg may be significant and, as noted above, that water quality objectives established by the IJC are likely to be exceeded. In such circumstances, it is not enough to refer vaguely to future "coordination"! Consultations between the United States and

Canada related to compliance with the BWT are in fact critical to the decision-making process under NEPA and to satisfying conditions imposed by Congress in its authorizations to the Corps. The EIS should make it clear that assessments and consultations, pursuant to U.S. international obligations, must be completed satisfactorily prior to project approval. Indeed, under applicable Congressional authorizations (PL Nos. 105-62, 105-245, 106-60 and 106-377), compliance with the BWT is a prerequisite to proceeding with the project. It is essential, in other words, that all necessary consultations and assessments be completed before agency decision-making and the initiation of construction, not just prior to "operation" as indicated in the EIS, and that they be fully integrated into the Corps' NEPA review.

(4). **Insufficient Evaluation of all Reasonable Project Alternatives**

- (a). Canada and Manitoba are concerned that all reasonable project alternatives have not been examined in sufficient detail. Greater emphasis is placed on alternatives involving an outlet where benefits accrue to the basin but impacts occur to the downstream environment, rather than the in-basin alternatives where both the benefits and impacts occur within the region. Retention and use of water in the upper part of the Devils Lake basin could be implemented more quickly and would have a greater effect on lake levels than an artificial outlet yet the outlet was given the greatest emphasis.
- (b). In addition to failing to place at least equal emphasis on in-basin alternatives, there are a number of significant flaws in the analysis of such alternatives. A more detailed analysis would undoubtedly lead to a better calculation of available storage and to improved costs. The significant flaws include:
 - (i). WEST Consulting Ltd.'s estimation of available upper basin storage indicates the amount of available storage may have been underestimated by as much as 50% (Appendix 2, p. 4-2). The Corps then uses (p. 4-43) only 50% of the under estimated figure to identify potential water volumes that could be captured and retained within the upper basin. Given the fact that WEST Consulting Ltd. has agreed that its estimate is low and that additional work is required, the Corps should use a range of more realistic values to represent actual upper basin storage to more fairly identify the costs and benefits associated with this option. In addition, the Corps should not overlay initial judgements on the extent of the identified storage that may or may not be available (*e.g.*, 50% of the identified storage could be acquired through lease, etc., for upper basin storage). All natural wetlands that once stored water, even on a temporary basis, and which were subsequently drained for enhanced agricultural production as well as naturally drained wetlands should be candidates for identifying benefits and costs.
 - (ii). The EIS (p. 3-19) and Appendix A (section 8) describe the retention of water in the upper basin through wetland restoration. The Digital Elevation Model (DEM) used in the analysis was based, at least in part, on 10-foot contour maps, thereby limiting the resolution at which drained wetlands could be correctly identified.

Apparently, LIDAR data are available for the upper basin which means that a DEM with a vertical accuracy of 0.5 feet should be available. This higher resolution DEM data should have been used.

- (iii). The seasonal evapotranspiration calculations used in the modelling are relatively crude and should be modified to take into account data obtained from the Great Plains region. In addition, the surface area - volume relationship for the entire data set should be determined and verified by comparison to similar data sets in the Great Plains.
- (iv). Aside from wetland restoration there are at least two other means of retaining water in the upper basin that are not discussed in the EIS. These include irrigation development and conversion of land to permanent cover.

Irrigation development in the upper basin could lead to significant water consumption, thereby decreasing inflow to Devils Lake. An examination of the irrigation potential of the area could be undertaken.

Many studies have shown that runoff is reduced and other environmental values may be enhanced if cultivated fields are returned to permanent cover. The U.S. Department of Agriculture operates a Conservation Reserve Enhancement Program (CREP) that offers farmers 10 to 15 year contracts to convert marginal, erodible lands to permanent cover. The stated purpose of the program is to improve water quality and riparian habitat. Although the program is limited to 100,000 acres for each state, only a modest number of acres in North Dakota have been proposed for conservation.

The modelling undertaken for the EIS could be used to examine the streamflow reductions that may be achievable through a program similar to CREP. A LIDAR DEM could be used to target the effective drainage area (the land surface that usually contributes to runoff). Since the landowner still retains beneficial use of the property, it is likely that a conservation easement program could be undertaken at lower cost than wetland restoration and could be equally effective.

(5). **Lack of Scientific Evidence for the "Wet Future" Approach and Resulting Distortion of Benefit-Cost Analysis**

- (a). The assumption that the wet period observed from 1993 to 1999 is indicative of future conditions is not scientifically supported within the EIS, and this assumption significantly biases the assessment towards selection of an unneeded artificial outlet. In addition, the underlying assumptions concerning future conditions distort the hydrology, hydraulic, and benefit-cost studies carried out for the EIS. The only possible scientific rationale for presenting the wet future scenario is to demonstrate the extent of hydrological forcing that is required to create a natural overflow. The scenario-based approach does not appear consistent with standard National Economic Development Principles and Guidelines as identified in the Congressional authorization (e.g., p. 1-2 "that the economic justification

for the emergency outlet shall be prepared in accordance with the principles and guidelines for economic evaluation as required by regulations and procedures of the Army Corps of Engineers...").

On the other hand, a standard probabilistic or stochastic approach could be used to evaluate future flooding conditions in the Devils Lake region. The EIS indicates (p. 1-S-2 and elsewhere) that a probabilistic approach has failed to predict the current rapid rise in water levels in Devils Lake and that a new model warranted development to force continued rise to overflow. However, the existing probabilistic models correctly predicted present water levels in Devils Lake to be a rare event, as acknowledged elsewhere in the report and confirmed by the re-constructed lake levels during the past 10,000 years (Figure 3, p. 2-2). Furthermore, these models predict that further rise of Devils Lake until overflow occurs is even less probable (or more rare). It is not scientifically appropriate to consider that probabilistic models fail when an event with low probability actually occurs. The existing probabilistic model correctly predicted in 1994 through 1999 (p. 1-S-3) that the present water levels could have been achieved, but with low probability.

- (b). The only evidence provided in the EIS for assuming a wet period from 2000 - 2015 is reference to an analysis from the Regional Weather Information Center at the University of North Dakota (footnote, p. 3-4). However, little support for this unusual conclusion is presented in the EIS. Page A-19 discusses a review of the Devils Lake methodology by the Utah Water Research Laboratory. That study could find no basis for long term trends. In fact, the study concluded that predicting or assessing the conditional probabilities of long-term lake levels was beyond the state-of-the-science.
- (c). Notwithstanding that only the stochastic approach rather than the wet-future scenario should be used, the underlying assumptions chosen in the EIS for the stochastic approach are flawed. Meteorological conditions are assumed to occur whereby patterns observed during the period 1980 to 1999 will persist until 2015 and then revert to conditions from 1950 to 1999. Selecting this period of record biases the stochastic analysis towards a wet future. The longest available climate record should be used for a probabilistic approach since such a record would include known climate cycles.

Since the stochastic analysis reproduces the statistics of the original time series, the selection of that time series is fundamental to the analysis. The EIS states that the analysis assumes that "these conditions (1980-1999) were assumed to persist until at least 2015" (p. 3-4). The significance of using the 1980-1999 period can be seen by examining Figures H1-9 in Appendix A. Once conditions representing the longer 1950-1999 period are assumed, the lake immediately starts to recede.

The stochastic analysis computes the statistics for a set of recorded inflows, rainfall, and evaporation over a defined historic period, and then generates a large number of simulated lake levels based on random generation of a large data set that has the same

overall statistical properties. In the current study the authors generated 10,000 traces of 50 years each, resulting in a total of 500,000 simulated years.

This approach is significantly flawed and biases the outcome towards a wet future since atypical short-term values were used to generate a lengthy time series. The first 15 years of the projections were based on the incredibly short period of 20 years from 1980 to 1999. Then projections for the following 35 years were based on the 50 year period from 1950 to 1999. Standard engineering practice was not followed in this hydrologic analysis whereby the longest data record available should have been used. Even 50 years (1950 - 1999) is short for developing statistics for generating 500,000 years of data. Purposely ignoring 60% of that data for the first 15 years of simulation is highly unusual and makes the whole study suspect. Although the footnote on page 3-2 qualifies the terminology related to the stochastic analysis, the fact remains that the results of the analysis are unrepresentative and misleading.

Although the reason for selecting 1980 as the starting point for the stochastic 'wet cycle' is unclear, the discussion on page A-17 implies some consideration of the Pacific Decadal Oscillation (PDO). This phenomenon is a 20 to 30 year cyclical fluctuation in sea surface temperatures and is depicted in the following Figure 1 provided by the University of Washington.

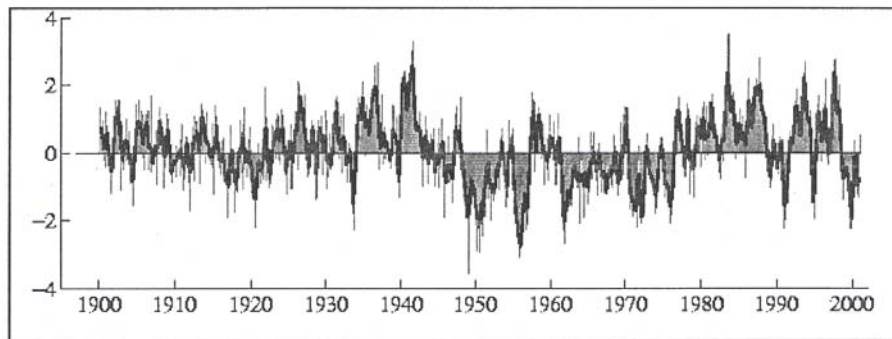


Figure 1. Pacific Decadal Oscillation (PDO) for the period from 1900 to 2000 (University of Washington).

The PDO switched from a cold regime to a warm regime in 1976 and the immediate effects of this change have been documented in the Canadian Rockies and elsewhere. However, only limited work in the peer reviewed scientific literature links the PDO to Devils Lake.

It can be inferred from the frequent references in the EIS that a wet cycle ending around 2015 is obtained by adding 30 years (the longest PDO cycle) to 1980 and allowing for some additional uncertainty. More reasonable assumptions would be a starting point in 1976 and a cycle length shorter than 30 years. In fact, the University of Washington

figure implies that the PDO may have returned to a cold regime in about 1998-99. Low annual runoff conditions in 2000-2001 and possibly in 2002 are consistent with this and are inconsistent with the runoff assumptions of the EIS.

A further factor related to future climate is the currently developing El Nino and its effect on near-term precipitation. The strong 1998 El Nino led to low precipitation in the Red River basin and it is possible that 2002-2003 might also feature low precipitation.

- (d). The sensitivity analysis (beginning at p. 4-29) is inappropriate. Sensitivity analysis should provide some basis for evaluating how significant the underlying assumptions are to determining the outcome of the analysis. The two most critical assumptions appear to be the time series used in the stochastic analysis and the duration of the "wet" period. The relevance of these to the study outcome should be tested. This analysis is not a sensitivity analysis since the traces were selected simply if they met certain water level targets without any indication of the likelihood of their occurrence.
- (e). The EIS (p. 3-2) indicates that, given the nature of lake flooding, standard riverine analyses of flood frequency cannot be carried out. However, page A-27 does present 1 % annual inflows under long-term and wet conditions. Presumably, these inflows are based on statistical analysis of calculated annual inflows but the basis is not given for the calculation.

Similarly on page A-26 the Probable Maximum Flood and Standard Project Flood are discussed with no indication of how these figures were derived. A review of the derivation of these floods would help put the wet future scenario in context. The proponent should demonstrate the derivation of the one-percent flood, the Standard Project Flood and the Probable Maximum Flood.

As some flood frequency analysis was carried out for this EIS, the same methodology should be applied to provide a context for the lake level increases used in the stochastic analysis.

- (f). As mentioned previously, use of the "wet-future scenario" distorts the benefit-cost ratio. As stated in the EIS (p. A-21), the probability that the wet future scenario will occur as constructed is zero. Therefore, the probability that damages will result from this scenario should also be zero. In addition, identification of a number of other benefits and costs have been ignored.
- (i). As highly improbable as the wet-future scenario is, it is even more unlikely that it would just affect the Devils Lake area. Rather, such a significant climatic shift would almost certainly affect adjacent regions. In addition, under this scenario, the Sheyenne River would be at bank-full conditions more frequently and thus, would be able to accommodate less water from Devils Lake. For example, all numerically modelled pumping schemes during wet periods, such as 1979, exhibited significant pumping reductions due to downstream flow constraints.

While the artificial outlet has been shown to be ineffective at the present time, it would become even less effective under the "wet-future scenario". Because pumping would be able to occur for fewer days under the wet-future scenario, the benefit-cost ratio would be reduced.

- (ii). In order for the wet-future scenario to actually be realized, major storm events would need to occur within the region to yield the massive amount of water required for Devils Lake to naturally overflow. In effect, the wet future scenario assumes three Red River floods the size of the 1997 and three floods on the Mississippi River similar to 1993 within a 21 year period. The 1993 flood of the upper Mississippi River in adjacent basins in the Upper Midwest had peak flows at dozens of USGS gauging stations that exceeded 100-year flood values and some exceeded 500-year flood values. In the wet scenario, the 1993 flood would have a frequency of 1:7 to 1:15, thereby requiring upgrades of all flood protection works on the northern Great Plains. If the effect of the wet scenario on Devils Lake is considered realistic enough to warrant development of an outlet, then additional flood protection for surrounding watersheds needs to be included in the benefit-cost analysis as well. Such events would have the theoretical capacity to cause enormous flood damages to major centres within the Red River basin even if Devils Lake does not overflow. It is inconceivable that this combination of highly improbable events would be used to justify flood protection for the Devils Lake region and not for the more highly populated and developed centres in nearby basins. Since flood damage reduction funds are limited, if the Corps is convinced that the wet-future scenario may actually occur, careful analysis of basin-wide protection measures should be undertaken and efforts should be targeted towards those areas where the greatest benefits would be realized.
- (iii). Devils Lake would continue to increase fisheries productivity and would therefore, provide the region with increased benefits should water levels continue to rise. These future benefits should be included in the benefit-cost analysis. Artificially draining the lake would preclude realization of these future benefits.

(6). Failure to Undertake Commitments Identified in the EIS Scoping Document

- (a). A monitoring program is identified on p. 5-101 to collect essential background information required to predict project impacts from mercury release and uptake as part of post-implementation monitoring. The EIS is incomplete without much of this information being available to assist in decision-making. This issue was identified during the scoping process and so, therefore, should have been included in studies. In addition, during the scoping process the Corps indicated its intention to explore BWT compliance issues in some detail. However, this has not been done.

(7). **Cumulative Impacts**

- (a). The section describing cumulative effects beginning on p. 5-91 should be expanded. For example, the list of potential projects reasonably foreseen in the future must include an artificial inlet to complete the vision for stabilization of Devils Lake. Recent statements by the North Dakota congressional delegation concerning the need for an inlet clearly indicate continuing intent in this regard.

The desire to construct a future inlet was clearly expressed by Governor Schafer in late 1997 when he wrote (together with North Dakota Senate Majority Leader Nelson and House Majority Leader Dorso) to the North Dakota Congressional Delegation that:

An inlet is important to ensure the long-term economic stability of the Devils Lake region, and is a significant component of our state's water-development plan. Strong support still exists for an inlet in the region.

and that:

Everything possible must be done to keep the inlet viable in Congress as a long-term option. We ask that this letter be included as part of a legislative history that should emphasize the state's interest in revisiting an inlet when the circumstances dictate.

During public meetings held by the Corps in the Devils Lake region and downstream areas in mid-October 2001, residents of the basin also expressed a continuing desire for a future inlet to stabilize water levels.

It is important to note that, even under the present stochastic analysis, the probability of Devils Lake receding to the presumed target elevation of 1441.4 feet is higher than that of reaching the natural overflow elevation. In all cases, the lake begins to recede after 2015 when the additional "forcing" is removed. The likelihood of resumption of public pressure for an inlet cannot be dismissed.

- (b). Two main concerns exist with the cumulative effects section (p. 5-91) should be expanded.
- (i). The section provides insufficient discussion of the nature of the cumulative effects and which effects may be significant. A short section should be provided to identify the nature of the cumulative effects for each project.
- (ii). In a number of cases, the cumulative impacts would be extremely significant (e.g., future inlet), not mitigable (e.g., future inlet), or could affect the benefit-cost ratio of either the present project (e.g., State's temporary outlet) or the future proposed project. Among other projects, the Bureau of Reclamation's Red River Valley Water Supply Study is likely to have significant regional impacts. These should

be clearly described. Because of this deficiency, statements in the last paragraph in the section are incorrect, since a number of the effects would be significantly greater when projects are combined.

(8). Mitigation

- (a). Natural resource mitigation measures described beginning on p. 5-92 are inadequate and rely, for the most part, on monitoring. A number of the expected impacts are not mitigable, such as those related to the transfer of invasive species. The section should clearly identify those natural resource impacts that are not mitigable. For those that are mitigable, this section should clearly identify the types of mitigation that would be implemented, and the nature and extent of monitoring that would be required to detect impacts, and the nature of the commitments that would be required to implement monitoring and to commence mitigation measures. Costs for both monitoring and mitigation measures that might be triggered should be incorporated into the benefit-cost analysis (although it is recognized that some attempt has been made to incorporate monitoring costs).
- (b). Several assumptions listed on p. 5-93 are incorrect. They include the assumption that the primary area affected would be limited to those areas flooded on the upper and lower Sheyenne River and the assumption that there is a low potential for biota transfer.
- (c). On p. 5-93, it is stated that “[b]ecause of the inability to accurately predict project impacts associated with operation, an extensive resource monitoring program will be required”; and on p. 5-94 the EIS states: “Monitoring is needed to develop the baseline information needed to assess the effects of the operation of an outlet.” These concluding statements regarding the inability of this EIS to identify project impacts are important for the agency decision-makers and should be highlighted in the introductory sections.

It is also stated on p. 5-93: “Monitoring is a major component of the proposed mitigation package.” Monitoring cannot be construed as mitigation. As mentioned above, there are a number of impacts that are reasonably expected to arise which cannot be mitigated. For other project impacts that may be mitigated, a clear and comprehensive plan needs to be developed identifying the nature of the monitoring plan and the nature of mitigation measures that will be implemented in response to specific monitoring information.

ADDITIONAL DETAILED COMMENTS

<u>Location</u>	<u>Comment</u>
p. 2-1 and Figure 3	<p>The sentence beginning on line 7, "When Devils Lake...", is misleading. A correct statement would be that, Devils Lake is usually a closed basin but under extreme high water conditions flows first to Stump Lake and then to the Sheyenne River thus contributing flow to the Red River.</p> <p>It is stated that the last natural overflow from Devils Lake to the Sheyenne River occurred between 800 and 1200 years ago. However, previous personal communications with Dr. John Bluemle suggested that the last overflow may have occurred about 1800 years ago. In addition, Figure 3 is presumably based upon Figure 20 contained in report No. 100 of the North Dakota Geological Survey by Murphy et al. (1997) titled "The Jerusalem and Tolna Outlets in the Devils Lake Basin, North Dakota". However, the hydrograph shown in the EIS differs significantly from the original. Additional references need to be provided to account for these differences.</p>
p. 2-9 and elsewhere (<i>e.g.</i> , p. 5-90)	<p>Natural overflow volumes are estimated given the assumption that erosion protection measures would not be implemented at the natural outlet. Based upon these projected natural overflows with erosion of the outlet channel, flooding and water quality impacts are then predicted to impact the downstream environment. These natural overflows are much higher than would occur if erosion protection measures were implemented. The magnitude of these impacts are used in several places to contrast with the impacts arising from a controlled 300 cfs artificial outlet. It is inconceivable that erosion protection would not be provided at the natural outlet should a natural overflow event be imminent, with or without an artificial outlet. Therefore, this comparison is invalid and should be deleted from discussion within the report.</p>
p. 3-4	<p>The statements in the third paragraph attempting to provide context for use of the 1980 - 1999 period are misleading and unsubstantiated. A more acceptable approach would be to provide context through an examination of the paleo-record at Moon Lake and other North Dakota locations.</p>

<u>Location</u>	<u>Comment</u>
p. 3-9	It is believed that the "Future Without Project (Base Condition)" is based on the wet future scenario and that natural overflow was assumed to occur (p. 3-9). However, this is often confusing and should be clarified. Specifically, it is not clear how water quality modelling was used to generate a base condition under the wet scenario for comparison with the alternatives and why different exceedance frequencies arise from comparing the same base condition with different alternatives.
p. 4-8 (and elsewhere <i>e.g.</i> , p. 4-29)	The EIS states that downstream interests may be able to tolerate higher flows and lower water quality associated with the outlet if they are convinced that a natural overflow would occur and that impacts would be greater. This implication is not correct and should be deleted.
p. 4-10 (480 cfs outlet)	The first paragraph is overly optimistic. Relocation of residential and commercial properties may still be needed if levels continue to rise, as identified under the 1% event.
p. 4-11 (Raise natural outlet)	The first sentence is not true for most simulations. Table H-1 on page A-124 shows that for more than 90 % of the simulated traces there would be no overflow. In those simulations raising the natural outlet would not result in higher lake levels.
p. 4-14 (Hydrologic Considerations)	Table 5 should be renumbered to Table 6.
p. 4-33 (Erosion of natural outlet)	There is no documentation of the analysis described in the bottom paragraph on page 4-33 and again in the second to last paragraph on page 4-34 which states that the control point would be slowly eroded. Without a full geotechnical survey, this contention cannot be supported. Page 5-90 notes that erosion did not occur 1200 years ago when the lake was estimated to have overflowed.
p. 4-43 (Upper basin storage)	The last sentence in the first paragraph states that much of land is currently "prime" farmland. Table 15 says that 65 % of the land is in agricultural use. Presumably only a portion of that would be considered prime.
p. 5-27	There does not appear to have been a sufficiently detailed survey of small fish undertaken with small mesh nets to determine the species not shared by the two basins. Given the amount of fishing on the lake, the movement of boats and the use of live bait (minnows), additional non-native species could have a high probability of existing or future introduction via the "bait-bucket" pathway.

<u>Location</u>	<u>Comment</u>
p. 5-50	It is stated: "Outlet operation ceases on 30 November...", but according to Figure 35, outlet operation would generally cease on September 1 rather than November 30. This discrepancy needs to be explained. In general, the operational plan for the outlet is not described in sufficient detail and there are, therefore, significant uncertainties as to its actual effects.
p. 5-53	It is stated: "The threshold chloride levels for some aquatic species, such as mussels, would be approached with operation of an outlet; however, no effects are anticipated." Considering the sensitivity of mussels to habitat perturbation, it is highly likely that significant impacts would occur for this group of animals.
p. 5-54	It is stated: "Fish hosts are prevented from carrying glochidia upstream past Baldhill Dam. Unless unionid refugia occur in the small tributaries, fauna is unlikely to recolonize." First, it may be helpful to more fully explain the interaction between fish and freshwater mussels. Second, unionids would most likely be affected by the dramatic decline between fall and winter flow. This group of species is being subjected to several different stressors including change in water chemistry, flow, habitat and availability of secondary hosts. Therefore, it is highly likely that they will experience a dramatic population decline and may be extirpated from the faunal community above Baldhill Dam completely.
p. 5-56	The potential effects of nutrient additions from operation of the outlet on the Sheyenne and Red rivers are discussed. In addition to the variables that are identified, ammonia must also be considered as an important nitrogen nutrient. Also, the potential impacts on Lake Winnipeg may be great and should be examined.
p. 5-62, Table 19 (Fishes), and p. C-143.	There is a lack of information on a number of fish. For example, baitfish are probably the group that would be introduced to Devils Lake and transferred to downstream recipients, but information is incomplete.
p. 5-64 (Aquatic Communities)	It is stated: "The effect of all these chronic changes in water quality, flow, and channel geometry would likely be a <i>reduction in the diversity and abundance of aquatic species in the Sheyenne River.</i> " The group of species most likely to be affected will be the unionids or freshwater mussels.

<u>Location</u>	<u>Comment</u>
p. 5-73	<p>The last paragraph under the section Recreation discusses potential impacts on fishing from release of striped bass from Devils Lake and from increased levels of mercury in fish tissue. This description understates the potential effects on recreation of both release of striped bass and mercury. Impacts from striped bass could be significant given the aggressive nature of the striped bass. Mercury uptake in fish flesh is an issue not just with channel catfish but with other piscivorous species as well such as the walleye and northern pike. Furthermore, fish size is not necessarily the most important determinant for the extent of mercury uptake. Rather, trophic position and age are more important factors thus allowing species such as walleye to generally concentrate mercury in edible tissue to a greater extent than channel catfish. Whereas channel catfish may be a catch-and-release species, walleye tend to be retained for consumption.</p> <p>It should also be noted that there is good evidence to indicate movement of fish populations between Canada and the United States. Thus, fish spawned and reared in Canadian waters of the Red River basin may migrate to habitat in the United States portion of the basin. The reverse migration also occurs. Thus, impacts from enhanced mercury uptake can affect fish in the basin in both countries.</p>
p. 5-86 (Natural Resources)	<p>An outlet may not prevent natural overflow. Table H-1 on page A-124 shows that for all options some traces would still result in overflow.</p>
p. 5-93	<p>A number of the assumptions are incorrect or questionable, such as the assumption related to biota transfer. The report states: "Because of the inability to accurately predict project impacts associated with operation, an extensive resource monitoring program will be required". It also states on p. 5-94: "[m]onitoring is needed to develop the baseline information needed to assess the effects of the operation of an outlet." These concluding statements regarding the inability of the EIS to identify project impacts are important, should be highlighted in the introductory sections, and should be clearly communicated to decision-makers.</p>

<u>Location</u>	<u>Comment</u>
p. 5-100	The report comments that “biotic monitoring programs could also be enacted to create an alert system that would be triggered if exotic species are found in Devils Lake ...”. However, the report does not mention the actions that would be implemented should invasive or non-native species be found in Devils Lake. The only feasible course of action would be to immediately discontinue pumping and to permanently disable the artificial outlet. This outcome is highly probable and should be factored into the benefit-cost analysis.
p. 5-101	A monitoring program is identified to collect essential background information required to predict project impacts from mercury release and uptake as part of post-implementation monitoring. The EIS is incomplete without much of this information being available to assist in decision-making. This issue was identified during the scoping process and so therefore should have been included in studies.
p. 5-103 (Table 21: Long-Term Mitigation and Monitoring, Aquatic Species Composition)	The EIS is incomplete without a complete baseline assessment of small fish in Devils Lake and downstream. This is the guild that would most likely be introduced to the system via the “bait bucket” vector.
p. 6-26 (4th paragraph)	This paragraph is misleading. It suggests that the stochastic modelling is based on normal climate variability, and that the scenarios are based on possible futures. Because of the focus on the very short period from 1980 - 1999 for the first 15 years, the stochastic model is not representative of Devils Lake climate.
p. A-20 and elsewhere	Although water balance studies of Devils Lake have been undertaken in the past, more detailed work is needed and should have been undertaken as part of the EIS. Assuming the statement in the EIS on page 1-S-11 indicating that little exchange occurs between the ground-water system and the lake itself is correct (there appear to be no indications to the contrary), sufficient data appear to be available to estimate precipitation, lake surface evaporation, and evapotranspiration. This detailed water balance is important to provide input to the stochastic modelling, to identify all potential factors that may have contributed towards the present situation, and to assist in assessing all available alternatives.

<u>Location</u>	<u>Comment</u>
p. A-22 (middle paragraph) (APPENDIX A – Hydrology, Hydraulics, and Water Quality)	There are no findings presented that support the statement that “...immediate protection is required”. This statement should be deleted.
p. A-26 (3rd paragraph)	Reference is made to Figure 1, but this figure could not be located.
p. A-69	The EIS acknowledges that the method used to model water quality under estimates concentrations, especially at sites distant from the Devils Lake outlet such as the international boundary. This is evident in Table 7 on p. A-80 where the modelling simulations under estimated most measures of upper data distributions beginning with the 50 th percentile. Thus, actual impacts could conceivably be even greater than predicted. Furthermore, under Pelican Lake alternative PL-1, water quality would become progressively poorer each year of operation due to the interconnection with the main body of Devils Lake. This progressive deterioration of water quality has not been shown in the modelling but would be expected to result in an increasing frequency of exceedances each additional year of outlet operation. This same phenomenon would occur under West Bay pumping alternatives as well.
p. A-139 (Downstream Flow Effects)	This section presents the downstream impacts of Devils Lake overflow for the wet and moderate scenarios. More explanation should be given as to why these are the scenarios that were studied and the relative probabilities of each. As previously mentioned, the probability of the wet scenario is very low. The moderate scenario represents about a 1 in 5 chance (see Figure 14, p. 4-4), but given the bias of the statistics underlying the stochastic analysis towards a wet future, the actual probability will be much less than this.
p. A-237	Six recommendations for further work were made but there is no discussion of the status of this work.
Appendix B, No page	There is no mention of interest during construction in the economic analysis. Most large engineering projects include this as a cost.
p. B-54	In the fourth paragraph there is a statement that operating and maintenance costs are not included in the analysis, as these costs would be borne by the local sponsor. This approach will result in erroneous benefit-cost analyses. All benefits and costs should be included in the analysis regardless of where they accrue.

<u>Location</u>	<u>Comment</u>
p. B-55 and elsewhere	There are a number of references to Attachment I. C, but this attachment could not be located.
p. B-116	The tables and the related plates beginning on page B-130 show damages at levels well below the presumed flood protection level of 1454. These should not be included as damages since protection is likely already in place or under construction. The EIS must clearly identify current flood protection levels and must not include damages in the economic analysis that may have occurred below these levels.
p. C-5	<p>It is stated that "Prior to 1965, no game fishery existed in Devils Lake. Routine stocking of game fish was initiated in 1965....". There is a need to identify all species that have been stocked in Devils Lake and their current status.</p> <p>It is also stated that fluctuating lake levels provide excellent habitat and TDS concentrations around 1000 ppm influence natural reproduction. Additional information should be provided to identify whether natural reproduction enhanced or inhibited at this concentration.</p>



CONSERVATION

**WATER BRANCH
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May 7, 2002

District Engineer
St. Paul District, Corps of Engineers
190 Fifth Street East
St. Paul MN 55101 – 1638

Attention: Mr. Dave Loss, PM-A

Dear Mr. Loss:

**RE: DRAFT INTEGRATED PLANNING REPORT / ENVIRONMENTAL IMPACT STATEMENT
FOR THE DEVILS LAKE, NORTH DAKOTA STUDY, FEBRUARY 2002**

Manitoba Conservation collaborated extensively with Environment Canada and Fisheries and Oceans Canada to provide joint comments to you on the draft Integrated Planning Report and Environmental Impact Statement (EIS) prepared for Devils Lake, North Dakota, dated February 2002. These comments were transmitted to you by Mr. Richard Kellow, Executive Director, Transboundary Waters Unit, Environment Canada, and are dated May 6, 2002. We are grateful for the opportunity to provide comments to you on the draft EIS.

In addition to the joint comments provided to you by Mr. Kellow, we wish to reiterate several important findings of this review: (1) we noted that the draft EIS was deficient in many regards despite a large number of the principal issues having been identified during previous scoping processes; (2) it is apparent from the draft EIS that greater benefits with fewer costs including fewer impacts to the downstream environment in Manitoba and Canada would accrue from continued in-basin alternatives that include infrastructure measures and upper basin storage; (3) if constructed and operated, exceedances of the International Joint Commission's water quality objectives would occur, thus likely violating the Boundary Waters Treaty of 1909; (4) the issue of biota transfer is not mitigable and continues to remain a significant concern; (5) there is no demonstrated consensus in the scientific community to support the "wet-scenario" approach; (6) the use of the "wet-scenario" approach to justify an artificial outlet as an "insurance policy" for the region is entirely inappropriate - an artificial outlet would cause impacts to occur to the downstream environment immediately upon operation, as identified in the EIS, but would only provide uncertain and limited relief to the Devils Lake region for a highly unlikely future event; and finally,

....Page 2



Protecting & Managing Our Future

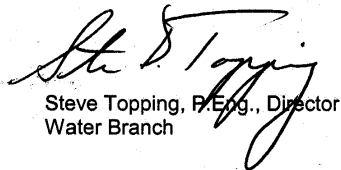
(7) a future inlet from the Missouri River remains a reasonably foreseeable future project since water levels will inevitably decline with or without an outlet, and there will be continued pressure to implement the State's long-term plan to stabilize water levels - the joint impacts related to the interbasin transfer of harmful, aquatic nuisance species of both an outlet and an inlet are greater than if either project were implemented separately so the cumulative impacts of both projects need to be assessed in this draft EIS.

In conclusion, sufficient information is presented in the draft EIS to clearly indicate that an artificial outlet project cannot be justified for any reason, thus failing to satisfy at least four of the five conditions imposed by Congress in their Energy and Water Development Appropriations Acts of 1998, 1999, 2000, and 2001.

Thank you again for the opportunity to provide comments to you on this draft EIS.

Should you have any questions, please feel free to contact me at the above address, by calling (204) 945-7488, or by e-mail at stopping@gov.mb.ca.

Sincerely,



Steve Topping, P.Eng., Director
Water Branch

c: Norm Brandon
Richard Kellow
Mark Fisher
Robert Oleson
Dwight Williamson
Rick Bowering
Joe O'Connor



Protecting & Managing Our Future

May 7, 2002

Attn: Dave Loss, PM-A, District Engineer
St. Paul District Corps of Engineers
190 Fifth Street East
St. Paul, MN 55101-1638

Dear Mr. Loss:

The State of North Dakota has been, and will continue to actively pursue solutions to the flooding situation in the Devils Lake region. The State's natural resource agencies, including the State Water Commission, Department of Health, and the Game and Fish Department, have reviewed the *Draft Integrated Planning Report and Environmental Impact Statement* (EIS) documents. The draft EIS and its supporting studies provide a detailed description of the benefits and costs associated with the various alternatives. It provides the information necessary to make a decision on whether or not to proceed with construction of an outlet for Devils Lake. The draft EIS demonstrates that an outlet from Pelican Lake should be built as soon as possible for the citizens of the Devils Lake region, and the citizens that live downstream along the Sheyenne and Red Rivers. We look forward to the completion of the Final EIS and your record of decision.

Attached are the comments and concerns of the Attorney General's Office and the State's natural resource agencies.

The State remains prepared to assist and cooperate with the Corps, as we strive to implement sound solutions at Devils Lake.

Sincerely,

John Hoeven
Governor

38:04:49

Enclosure: State agency comments
Attorney General's Memorandum

North Dakota State Water Commission

The flooding around Devils Lake is a unique situation in that the water does not recede each year as a river flood does. The principles and guidelines referred to in the Draft EIS were developed to address riverine flooding and do not accurately represent the risks of a lake flood. While the stochastic model that was developed to estimate the probability of future lake levels to address the shortcomings of the principles and guidelines is an excellent tool, Table A in the summary section illustrates the difficulty of accurately modeling a system as complex as Devils Lake. This table clearly shows that the lake reached a level that was estimated to have a low probability of occurring. While a great deal has been learned about the hydrology and climatology affecting the lake level over the last 10 years, which has resulted in the stochastic model being much more accurate than it was a few years ago, it is possible the model still underestimates the risk of future lake levels. The statement that the outlet could be viewed as an insurance policy is appropriate, given the lake's history of reaching levels that were considered a low probability.

The draft EIS states in several locations that the probability of a natural overflow is low, and generally downplays the risk of an overflow and of erosion of the natural outlet. On page 5-29 the draft EIS even states, "there would be no natural overflow under the future without project conditions." This is incorrect, as the document states in a number of places; there is a 9.4% chance of the lake spilling naturally in the next 50 years. Given the damage that could occur downstream, as well as the additional damage that would occur around the lake, the risk must be reduced. The wet scenario used to represent the traces that overflow naturally provides a good example of the potential impacts of a natural overflow, as it falls in about the midpoint of these traces. To reduce the risks and uncertainties of the future, the wet scenario should be used to determine the costs and benefits of the project.

The assumption that the natural overflow elevation will be protected from erosion under the future without project condition is understandable, as it provides a conservative estimate of the benefits of the project. While this is explained to a degree in the sensitivity analysis, it could be stated more clearly that assuming erosion will not occur may underestimate the downstream risks. The statement on page 5-90, "Materials at about 7 feet are over 7,000 years old. Devils Lake is estimated to have spilled to the Sheyenne River within the last 1,200 years; therefore, it did not erode at that time", is misleading. Obviously, soils that are 7,000 years old did not erode within the last 1,200 years. However, it is not known what the topography immediately downstream of the divide was prior to the last time Devils Lake spilled. It is possible that substantial head cutting occurred during the last spill(s), but the spills did not last long enough for the erosion to reach through the divide. Therefore, it is possible that the next spill will erode through the divide causing significant damages downstream. Too little emphasis or consideration was placed on these damages. Estimations of downstream damage for a range of overflow volumes would be very beneficial.

DL Outlet Comments

Page Two

The draft EIS overstates the benefits of upper basin storage while downplaying the benefits of an outlet. For example, Table 15 and other places note that upper basin storage would reduce the lake level by about one foot but does not mention how much the outlet alternatives would lower the lake. In addition, the one foot reduction in lake level, as shown in Figure 40, does not occur until well after the lake has reached its peak elevation. The reduction in the peak lake elevation provided by upper basin storage is much less than one foot. The impacts of upper basin storage on employment and business activity are understated. Removing 40,000 acres of land from agricultural production will have an impact on the economy of the region. Finally, justifying the need for additional study of upper basin storage on the basis that “many of these respondents feel that if upper basin drainage is minimized or stopped completely, the proposed outlet may be unjustifiable or unnecessary” is fallacious. The draft EIS and its supporting studies clearly show that upper basin storage by itself will not provide significant flood relief.

The draft EIS states that the Pelican Lake outlet would pass through portions of the Fort Totten Indian Reservation. The State contends that the Pelican Lake outlet would not pass through any portion of the Reservation. The attached memo from the North Dakota Attorney General’s office supports our analysis.

The draft EIS states that if the State begins construction of a temporary outlet, a decision would have to be made on whether the future without project conditions should be reevaluated, which would result in the extension of the schedule to complete project design and the preparation of a revised NEPA document. While the State will continue to design an outlet along the Peterson Coulee alignment, and obtain land rights and permits for this outlet, a decision on construction will not be made until after the final EIS is released in July. If the Corps provides flood relief for the citizens of North Dakota in a timely fashion, a State outlet may not be necessary.

Following are page specific comments on the draft EIS.

Page 1-S-4: Table B and Page 4-13: Table 6

The benefit-cost ratio (BCR) under the wet scenario for the Pelican Lake 300cfs outlet is incorrectly presented as 2.63. It should be 2.51 according to page B-173 of the Draft Economic Formulation section (Appendix B) which provides an account of benefits (\$21.9 million) and costs (\$8.7 million) for a BCR of 2.51.

Page 4-2: Table 4

The BCR for the east end outlet under the “Likely Future” should be 0.47 according to project benefits and costs presented on page B-153 of the Draft Economic Formulation section (Appendix B). Benefits of \$3.4 million and costs of \$7.2 million yield a BCR of 0.47. (BCR of 0.88 presented on B-153 is also a mistake - see comment B-153)

Page 4-13: Table 6

The BCR for the Pelican Lake 480cfs outlet should be 2.06. On page B-173 of the Draft Economic Formulation section (Appendix B), benefits are \$30.2 million, costs are \$14.7 million, for a BCR of about 2.06.

DL Outlet Comments

Page Three

Page 4-35: Table 12

The BCR for the West Bay 480cfs outlet under the “Without DS Impacts” should be about 3.77, not 3.81. The BCR is \$29.7 million/\$3.7 million = 3.77

Page 4-42

The discussion of operation of a new channel from Dry Lake to Big Coulee should include mention that this channel would be used only in years that the outlet is operating. If Devils Lake drops below the operating level of the outlet, Channel A would be used, as it has been in the past.

Page 5-19

Towner County should be included in the list of counties that contain agricultural land that would be inundated by further rise of Devils Lake.

Page 5-39

It is stated that there are approximately 1,828 people living in census block groups intersected by the Pelican Lake outlet route. The area of these census block groups is not provided, so it is not known how large an area this encompasses. However, as the city of Minnewaukan, population approximately 400, is the only population center near the alignment, the figure of 1,828 seems to be rather large.

Page 5-35

Increases in river stages varying from 0.5 feet to 1.5 feet as a result of the outlet are described. These increases occur when water is in the channel.

APPENDIX B, ECONOMIC FORMULATION PART I

Page B-9: I.2.3.1.1

It is stated in the last paragraph of that section that “business impacts are worsened by exaggerated fears of would-be visitors and recreational users of the Devils Lake area.” Some mention should be made of the loss of would-be investors who have reservations about starting/relocating businesses in the Devils Lake area for fear of flood-related problems.

Page B-27

It is stated in the last paragraph that “the Canadian Government might choose to allow outlet operation only for the current emergency situation.” This should state, “the current consultations with the Canadian Government may apply only to the current emergency situation.”

Page B-31: I.3.1.3

Mistake in spelling of Tolna Coulee.

Page B-32

Annual maintenance costs should be 1%.

DL Outlet Comments

Page B-34: (second-to-last bullet)

Operation and Maintenance costs for control structures along Highways 281 and 19 should be 1% of the first cost during the years that the outlet is operating.

APPENDIX B, ECONOMIC FORMULATION PART II

Page B-143: II.1.2.1.3 Net Benefits (first paragraph)

Project costs in the amount of \$2.7 million should be used as the denominator in the BCR rather than the positive of the net benefits (-\$1.9 million).

Page B-153: II.1.3.3.3 Net Benefit(s) (first paragraph)

The BCR should be 0.47. Based on the BCR of 0.88 that is presented, it appears that the positive of the net benefits (-\$3.8 million) were used in calculating the BCR rather than the \$7.2 million as it is written.

Page B-168: II.2.2.3.3 Net Benefits

Annualized benefits and costs should be provided in this section so the BCR is more clearly defined. As it is now, only the net benefits and BCR are presented. Thus, the reader must search the previous “Project Benefits” and “Project Costs” sections for input resulting in the BCR.

B-194: Table II.ST-1

The BCR for Alternative ST-10 should be 0.47 not 0.88. *(See related comment from page B-153)*

North Dakota Department of Health

The Department of Health has completed its review of the Draft Integrated Planning Report and Environmental Impact Statement (EIS) for Devils Lake, North Dakota. The report delineates several options to reduce the rate of a rising Devils Lake level. Furthermore, the report discusses some of the major impacts that could occur if each of the various alternatives were implemented.

The North Dakota Department of Health is the regulatory agency responsible for ensuring this project will be in compliance with applicable North Dakota State Water Quality Standards. The draft report does not identify a recommended plan; however, the Pelican Lake 300cfs outlet was selected for preliminary design. The Department of Health concurs with the Corps that the Pelican Lake outlet should undergo more detailed design and engineering work.

Water quality standards are intended to protect the beneficial uses of the waters of the State. As defined in the state standards, the quality of the Sheyenne River and Red River shall be suitable for 1) the propagation and/or protection of resident fish species and other aquatic biota; 2) for swimming, boating, and other water recreation; and 3) for irrigation, stock watering, and wildlife without injurious effects. In addition, the water quality shall meet the bacteriological, physical, and chemical requirements of the Department for municipal or domestic use after treatment, consisting of coagulation, settling, filtration, and chlorination or equivalent treatment processes. The quality of the Sheyenne River shall be the same as the Red River, except for sulfate, chlorides, and sodium concentrations.

DL Outlet Comments
Page Five

The water quality modeling conducted for the Sheyenne River and Red River focused on total dissolved solids (TDS), sulfate, and chlorides. Although the concentration of these parameters are important in determining if beneficial uses of the water are maintained, there may be other variables that could affect the compatibility of Devils Lake waters on receiving streams. We request the Corps review (within current EIS/ROD schedule) pertinent water quality variables in Pelican Lake, the Sheyenne River, and major tributaries to determine if any substance is more limiting than sulfates, chlorides, or TDS.

The water quality at several locations in Devils Lake is projected using several scenarios. An outlet for Devils Lake has the potential to increase the TDS in Devils Lake; however, we agree that impacts on aquatic life would be marginal, and could be managed.

The lake elevation or operational conditions at which discharges would stop is not well defined. Due to the uncertainties of numerous variables, we suggest that protection of aquatic life, water quality, and limnological considerations are prime factors in that decision.

The draft EIS describes impacts to aquatic fauna in the Sheyenne River and Red River. The concentration of water quality variables would not exceed the tolerance levels for species that were reviewed. Because of the great uncertainty in predicting impacts to aquatic life, we suggest the Corps develop a detailed monitoring and assessment plan. The purpose is to determine if unacceptable changes develop; subsequently, the operating plan could be modified to minimize these impacts.

In order to assure full information is available to regulatory agencies, and the public, we suggest a real-time monitoring for specific conductance and flow be included. Sites could be located in the discharge channel, and the Sheyenne River, and be accessible via the Internet to all concerned parties.

Impacts to municipal water supplies appear unavoidable. The City of Valley City uses the Sheyenne River as a raw supply directly or via shallow wells adjacent to the river. Any increase in constituent concentrations above safe drinking water maximum contaminant levels must be treated to at least that level. It appears that sulfate can exceed 250 mg/L at times and, therefore, additional treatment or alternate supplies may need to be developed.

It is the intent of the North Dakota Department of Health to require the project sponsor to secure a permit for a Devils Lake discharge under Section 402 of the Clean Water Act. This permit cannot be issued if the discharge violates applicable State Water Quality Standards. These standards define beneficial uses of the water, and establish criteria to protect those uses. An important part of the NDPDES permit is the antidegradation review process. The draft EIS provides some of the information, but the project sponsor will be required to provide documentation to proceed with the antidegradation review process.

We look forward to working with the Corps on this project, and welcome the opportunity to meet with you to discuss specific issues raised in the letter.

After the comment period has closed, we request the Corps forward copies of letters that mention water quality or maintenance of beneficial water uses.

DL Outlet Comments

Page Six

North Dakota Game and Fish Department

Comments contained within this document are based primarily upon the mission of the North Dakota Game and Fish Department, which is “to protect, conserve and enhance fish and wildlife populations and their habitat for sustained public consumptive and appreciative use.”

The majority of the comments are based on the Pelican Lake 300cfs option, which appears to be the preferred alternative with only cursory comments being made on other alternatives. All comments are directed only toward North Dakota’s natural resources.

Future without

The worst case scenario for fish and wildlife populations is an uncontrolled release from Stump Lake into the Sheyenne and Red Rivers. The probability of natural overflow occurring (9.4%) is critical to the decision process, as it relates to the fish and wildlife resources. If model predictions are accurate, both quantity and quality of water would create negative impacts equal to or exceeding any outlet scenario provided. TDS levels are predicted to range from 3,700 mg/l to 6,800 mg/l and would have a negative impact on fertilization and survival in early life stages of many fish species. Mollusk populations of the Sheyenne River would be reduced due to erosion of preferred substrate (bottom sediments). Erosion, in concert with high ground water levels, will negatively impact riparian habitats used by a variety of wildlife. Although the immediate effects could be viewed as short term, recovery of the system would likely take decades, if recovery occurs at all for some species. This is particularly true of aquatic species where populations sufficient for re-colonization would likely no longer exist in the immediate area.

A positive impact of a ‘future without’ scenario would be to remove salts from Devils Lake, thus prolonging the recreational fishery and its associated values. By allowing a natural spill, the Devils Lake basin functions in a more normal pattern, thus providing higher natural resource values in the Devils Lake basin in future years. However, the negative impact to downstream natural resources needs to be considered and impacts associated with higher TDS values have not been adequately analyzed.

Future with

Impacts to the natural resource associated with all outlet scenarios (WB300, WB480, etc.) are similar. Pelican Lake 300 is addressed separately, since it is the scenario most likely to achieve the primary goal of slowing the rise of Devils Lake water levels.

There is general agreement with comment/impacts stated in the document with some exceptions.

Riparian

We strongly suggest that intense monitoring occur to evaluate the effects on the riparian zone of increased and sustained flows in the Sheyenne River. This includes groundwater levels, erosion, etc. Special consideration and care should be taken to monitor and mitigate for the effects of increased ground water levels on Mirror Pool WMA, a unique natural fen area in North Dakota.

DL Outlet Comments

Page Seven

An additional impact not mentioned in the document is the loss of trees in the riparian zone and subsequent effects on water temperatures and aquatic communities. Typically, water temperatures rise when riparian vegetation is removed, thus causing increased water temperatures and changing thermal habitat. This was not adequately addressed.

Wildlife

Impacts associated with relocation of wildlife bordering the Sheyenne River are vague and incomplete. We believe wildlife populations residing within the Sheyenne River Valley may relocate to areas outside of the Sheyenne River Valley into existing populations, which would cause greater social issues (e.g., deer depredation on hay supplies). This will ultimately reduce the populations in the general area for as long as the outlet is operated. This needs to be addressed in the mitigation component.

Pelican Lake - 300cfs Outlet

The Corps of Engineers did a good job of identifying and predicting impacts to the natural resource. Generally, agreement exists with the impacts identified, but we believe some issues were inadequately addressed or not addressed. Following are areas we believe require further consideration.

Yellow perch are an important commodity to the community of Devils Lake. As water levels decline it is theorized that the yellow perch population will concurrently decline. However, the Game and Fish is currently 'mapping' habitat in Devils Lake and the results are not yet available. Once these are available, a more reliable estimate of impact can be made.

The inundation of a large number of trees in the Devils Lake basin have created an abundance of nesting habitat for double crested cormorants. A recent study from New York reports cormorants take eight times more perch than anglers. As water levels decline, more dead trees may be available and theoretically increase the population of cormorants. This increase could cause further stress on a declining yellow perch population (as water levels decline and spawning substrate is reduced). Again, when aquatic habitat mapping is completed this information will be available.

We agree with the Corps that there will be little, if any, effect on wildlife or riparian areas along Devils Lake under this option. It follows the same trend as 'base' conditions.

Upper Sheyenne River

The existing fish community of the Sheyenne River is adapted to the historical flow regime of the upper Sheyenne River. The change in flow pattern will result in a change to the fish community structure, as the document suggests. However, as the fish community changes it will likely consist of species that prefer high flows. When fall releases cease, critical habitats will be drastically reduced with the likely result being a winterkill. Without a remnant population to re-colonize the upper Sheyenne River, it will likely have low species diversity and population density. This will be exacerbated when the project operation is no longer required. These changes should be carefully monitored and strategies devised and implemented to expedite the return of 'resident' species and populations.

DL Outlet Comments

Page Eight

Lowhead dams on the upper Sheyenne River are not addressed within the document. These can be barriers to fish passage under normal to moderate flow conditions, as well as being a safety issue, but will likely be overtopped under increased flows, thus not creating a barrier to fish passage. However, upon cessation of operation of a Devils Lake outlet, these structures will likely be in serious need of repair. It is suggested that, at that time, they either be removed or modified to address fish passage and safety concerns. A survey of current dams is also suggested since some are currently in need of repair and may affect efficiency of water conveyance.

Lake Ashtabula

This area has the highest potential for negative impact of all recreational fisheries affected by an outlet. The increased volume of water moving through Baldhill Dam will negatively affect the walleye population by decreasing the storage ratio. Storage ratio (defined as reservoir volume divided by average annual discharge) should not be less than one, in order to provide optimum walleye production. The storage ratio under the Pelican Lake-300cfs scenario could be as low as 0.2, if maximum flows were released from Devils Lake and average annual inflow to Lake Ashtabula were realized.

There is slight disagreement with the documents statement that additional nutrient input to Lake Ashtabula would not contribute to eutrophication impacts. Additional sediment from erosion in the Upper Sheyenne River will bring with it additional phosphorus and nitrogen. This will exacerbate a problem with emergent/submergent aquatic plants in the upper portion of Lake Ashtabula, as well as blue-green algae within the reservoir. This can create problems with dissolved oxygen levels during summer and winter periods. This parameter should be monitored, and adjustments made to reduce or eliminate impacts as the project progresses.

Lower Sheyenne River

Concerns are similar to those noted in the EIS or already mentioned in our comments on the Upper Sheyenne River. There was no mention in the EIS document of potential snagging and clearing efforts in order to more efficiently pass increased flows. Snags are valuable aquatic habitat and all efforts should be made to minimize or eliminate snagging and clearing activities.

An issue that was not comprehensively addressed was the effect of increased TDS on the operation of the Valley City National Fish Hatchery complex. It is theorized that negative impacts will occur to fish production as a result of increased TDS levels and sediment load. This has not been thoroughly discussed or analyzed.

Red River

There is very little impact associated with quantity or quality of water attributable to an outlet. Concerns are similar to those of the lower Sheyenne River on snagging and clearing issues.

Biota Transfer

The EIS document addresses this issue as thoroughly as possible given the available time and information. We agree with the majority of conclusions in the EIS. There is a question of the necessity for monitoring of zander and grass carp. Although present in North Dakota, these fish are not in the Red River watershed of North Dakota and the likelihood of transfer is small. The presence or absence of a Devils Lake outlet neither enhances nor decreases any potential for transfer of these fish.

DL Outlet Comments

Page Nine

Pathogens are issues that have caused concern. Statements have been made that not all pathogens are known and we have to agree. However, there have been no known disease outbreaks in Devils Lake, which should have historically occurred because of highly stressful conditions in the early 1990's had pathogens been present. Of greater concern is the occurrence of Heterosporis, a microsporidian parasite that affects perch, walleye, rainbow trout, channel catfish and fathead minnows. It is currently found in Minnesota's inland lakes with potential to be transferred to the Red River Basin of North Dakota with potentially devastating effects to a world class channel catfish fishery. At this time, it appears a larger threat for a devastating pathogen introduction would occur from the east, rather than a Devils Lake outlet. We are awaiting the results of a pathogen comparison between Devils Lake and the Red River. Once completed and the results made available more complete analysis can occur.

Mitigation

On page 5-104 it is stated that mitigation of aquatic resources is "assumed to be mitigated through riparian mitigation of terrestrial resources." This is not an acceptable mitigation option. In-kind mitigation for all natural resources, whether it be terrestrial or aquatic, must occur.

MEMORANDUM

TO: **Bruce Engelhardt, State Engineer's Office**

FROM: **Charles M. Carvell, Assistant Attorney General**

DATE: **May 7, 2002**

RE: **Reservation boundary**

Issue

Friday you asked whether a 64,000-acre tract of land is part of the Spirit Lake Indian Reservation. The reservation was established by the Spirit Lake Tribe's 1867 treaty. The 64,000 acres adjoins the west side of the reservation.

The land was in fact within the boundaries as the treaty described the reservation. But due to an 1875 surveying error, the 64,000 acres have never been considered within the reservation. Despite the fact that local, state, tribal, and federal governments, as well as the Indian and non-Indian citizenry, have, for over 100 years, treated this area as if it were outside of the reservation, you ask whether federal Indian law nonetheless gives this land reservation status.

Answer

A surveying error alone is unlikely to alter an Indian reservation boundary. But other federal actions can diminish the size of a reservation and even disestablish it entirely. In 1904 Congress opened the Spirit Lake Indian Reservation to non-Indian homesteaders. Acts similar to this have been held to either diminish or disestablish reservations. E.g., South Dakota v. Yankton Sioux Tribe, 522 U.S. 329 (1998)(diminishing the Yankton Sioux Reservation); Hagen v. Utah, 510 U.S. 399 (1994)(diminishing the Uintah Reservation); Rosebud Sioux Tribe v. Kniep, 430 U.S. 583 (1977)(diminishing the Rosebud Sioux Reservation); DeCoteau v. District County Court, 420 U.S. 425 (1975)(disestablishing the Lake Traverse Reservation).

While Congress may well have disestablished the Spirit Lake Reservation in 1904 -- which if it did then the reservation/non-reservation status of the 64,000 acres becomes moot -- that issue doesn't need resolution to answer your question. No matter what Congress intended regarding reservation disestablishment, it is clear that in light of the 1904 Act and events before and after it, the reservation was diminished by removing the 64,000 acres from the reservation.

Discussion

1. Creation of the Spirit Lake Indian Reservation.

In 1867 the United States entered into a treaty with the Sisseton and Wahpeton Bands of Sioux Indians. 15 Stat. 505; II Kappler Indian Laws and Treaties 956 (1904). Article 2 described the land claimed by the Bands. This was a large area that included much of southeastern North Dakota and northeastern South Dakota. The treaty also established two reservations. Article 3

created the Lake Traverse Reservation. Article 4 defined the boundaries of the Devils Lake Reservation, now known as the Spirit Lake Reservation. The description states:

Beginning at the most easterly point of Devil's Lake; thence along the waters of said lake to the most westerly point of the same; thence on a direct line to the nearest point on the Cheyenne River; thence down said river to a point opposite the lower end of Aspen Island, and thence on a direct line to the place of beginning.

The Bands entered into another agreement with the United States in 1872. 17 Stat. 456, 18 Stat. 167; II Kappler at 1057. In this agreement the Bands ceded title to all land described in Article 2 of the 1867 Treaty, except for the reservations described in Articles 3 and 4.

2. The erroneous survey, the tribe's claims, and the federal response.

The treaty description running the western boundary from Devils Lake's "most westerly point . . . on a direct line to the nearest point on the Cheyenne River" caused the 1875 surveyor a problem. He ran the western boundary in a southeasterly direction from Devils Lake's "most westerly point." It should have been run in a southwesterly direction. The error was discovered in 1883. Letter from U.S. Indian Agent John Cramsie to H. Price, Comm'r of Indian Affairs (June 12, 1883).

As a result, the reservation contained "64,000 acres of land less than was included within the boundary lines of the reservation as specified" in the 1867 treaty. Sisseton & Wahpeton Bands of Sioux Indians v. United States, 58 Ct.Clm. 302, 320 (1923), aff'd 277 U.S. 424 (1928). But prior to discovery of the error many non-Indian homesteaders settled in the area excluded from the reservation. Id. Consequently, "the Department of the Interior decided that no change should be made in the boundary lines of the reservation as surveyed and established in 1875." Id. To compensate the tribe, however, Congress appropriated \$80,000 to be spent by the Secretary of Interior for the tribe's benefit. Act of Mar. 3, 1891, ch. 543, 26 Stat. 1010. The \$80,000 was appropriated and expended as Congress directed. Sisseton & Wahpeton Indians, 58 Ct.Clm. at 320.

The tribe was unsatisfied with the settlement. It revived the issue in 1901 negotiations with the United States. Those negotiations arose as the result of change in federal Indian policy. During much of the 1800s federal policy sought to separate Indians from non-Indians by creating reservations. In the latter 1800s, however, Congress considered the reservation system a failure and instituted a new policy of assimilation. This policy sought to integrate Indians into non-Indian society. "Within a generation or two, it was thought, the tribes would dissolve, their reservations would disappear, and individual Indians would be absorbed into the larger community of white settlers." South Dakota v. Yankton Sioux Tribe, 522 U.S. 329, 335 (1998).

To further assimilation the federal government allotted tracts of reservation land, often 160 acres, to tribal members with the hope that they would become farmers and ranchers. If after allotting land to tribal members there remained unallotted land within the reservation, Congress often opened the reservation to non-Indian homesteaders, allowing them to acquire the unallotted, or "surplus" land. The government thought that non-Indians living among Indians would further the assimilation of Indians. (The assimilation policy was formally abandoned in 1934 in favor of a policy of tribal self-determination.)

Prior to allotting reservation land to individual tribal members and selling the surplus land to non-Indians, the United States needed tribal consent. During the 1901 negotiations with the

Spirit Lake Tribe, tribal members raised a number of grievances, including dissatisfaction with the compensation they had received for the erroneous survey of the western boundary and claimed that the tribe had never relinquished the 64,000 acres. H.R. Doc. No. 98, at 16 (1901).

The 1901 agreement signed by the tribe and the 1904 Surplus Lands Act that incorporated the essential terms of the agreement, contained a provision compensating the tribe for the 64,000 acres. Act of Apr. 27, 1904, ch. 1620, 33 Stat. 319. The tribe received the compensation provided for by the Act. Sisseton & Wahpeton Indians, 58 Ct.Clm. at 322. Thus, by the early 1900s the tribe had twice been compensated for the western boundary survey. Nonetheless, additional claims were made.

Throughout the late 1800s and early 1900s many Indian tribes sought compensation for grievances based on treaties and other agreements with the United States. But only if Congress enacted a special jurisdictional act could a tribe pursue its claims in the Court of Claims. Francis Paul Prucha, II The Great Father 1018 (1984).

In 1916 a special jurisdictional act for the Spirit Lake Tribe was enacted. Act of Apr. 11, 1916, ch. 63, 39 Stat. 47. The tribe filed a claim under it in 1917. Sisseton & Wahpeton Bands of Sioux Indians v. United States, 58 Ct.Clm. 302 (1923), aff'd 277 U.S. 424 (1928). Among its claims was a request to be compensated for land excluded from the reservation by the 1875 survey. Id. at 320. Without discussion, the Court of Claims rejected this claim, stating that it was “so obviously devoid of merit.” Id. at 335.

Because special jurisdictional acts did not always achieve their purpose, in 1946 Congress established a special tribunal, the Indian Claims Commission, to hear tribal claims against the United States. Prucha, at 1019; Act of Aug. 13, 1946, ch. 959, 60 Stat. 1049. In 1951 the Spirit Lake Tribe filed a claim with the Commission. Devils Lake Sioux Tribe v. North Dakota, 917 F.2d 1049, 1051 (8th Cir. 1990). Its “reservation claim” alleged an unlawful taking of lands originally ascribed to the reservation by the 1867 Treaty. Id. “This claim included a request for compensation for 64,908 acres of land erroneously omitted from the Reservation in 1875.” Id. In 1973 the Commission ruled in favor of the tribe’s reservation claim, including its claim for the 64,908 acres omitted by the 1875 survey. Id. (citing Lower Sioux Indian Community v. United States, 30 Ind. Cl. Comm. 463 (1973), aff'd 519 F.2d 1378, 207 Ct. Cl. 492 (1975)). The compensation awarded for the claim was received by the tribe. Devils Lake Sioux Tribe, 917 F.2d at 1052.

3. The Spirit Lake Reservation has been diminished by Congress and no longer includes the 64,000 acres in question.

Congress has plenary power over Indian affairs, including the power to alter the boundaries of a reservation created by treaty. Yankton Sioux Tribe, 522 U.S. at 343. To do so, Congressional intent must be clear. Id. While such intent can be found in the language of Congressional acts, other matters are relevant in assessing that intent, such as the historical context; surrounding circumstances; legislative history; subsequent treatment of the area by Congress, the BIA, and local governments; and the area’s “pattern of settlement.” Id. at 334, 344, 351; Rosebud Sioux Tribe v. Kniep, 430 U.S. 584, 587, 598 n. 20 (1977).

Shortly after Spirit Lake’s survey error was discovered, the federal government stated that the error would not be corrected and that “no change should be made in the boundary lines of the

reservation as surveyed and established in 1875.” Sisseton & Wahpeton Indians, 58 Ct.Clm. at 320. This decision was primarily motivated by the presence of many non-Indian homesteaders on the land. Id. When Congress in 1893 awarded compensation for the error, it stated that the land was “not included” in the reservation. Act of Mar. 3, 1891, ch. 543, 26 Stat 1010. This is a clear expression that Congress accepted and ratified the 1875-surveyed boundary as the lawful western boundary.

If there is uncertainty about this, it was clarified during the 1901 negotiations with the tribe and its 1904 Surplus Lands Act. Numerous facts related to the Act point to diminishment if not disestablishment of the reservation. Rather than discuss them all, emphasis will be given the parallels between the Spirit Lake and Rosebud Sioux Surplus Lands Acts. These parallels are drawn because the Supreme Court has ruled that the Rosebud Act (Act of Apr. 23, 1904, 33 Stat. 254) expressed a Congressional intent to diminish the Rosebud Reservation. Rosebud Sioux Tribe v. Kniep, 430 U.S. 583, 587 (1977).

The Spirit Lake Surplus Lands Act was debated and enacted just four days after the Rosebud legislation. The terms of the two acts are similar. This is not only apparent today but was apparent to Congress. Rep. Marshall of North Dakota, in his floor speech on the Spirit Lake bill, found it adequate to merely summarize the bill. He stated that the bill’s provisions were “similar to those of the Rosebud bill, which passed this House a few days ago.” 38 Cong. Rec. 1642 (1904). He added: “I do not care to go into any detailed explanation of this matter, as I believe the House has a fairly good understanding of the provisions of this bill at this time, having just considered the other similar bill.” Id. See also H. Rep. No. 637 at 5 (Letter from William Jones, Comm’r of Indian Affairs (Jan. 9, 1904)(stating that the Spirit Lake bill is, “in its essential features,” like the Rosebud bill)).

As stated, the Supreme Court concluded that the 1904 Rosebud Surplus Lands Act diminished the Rosebud Reservation. Given the close similarities between that Act and the Spirit Lake legislation, the Court would likely find that the Spirit Lake Surplus Lands Act diminished the Spirit Lake Reservation.

In its 1901 agreement, the Spirit Lake Tribe ceded all its “claim, right, title, and interest” to all unallotted land in the reservation. Act of Apr. 27, 1904, ch. 1620, 33 Stat. 319. None of the 64,000 acres in question was allotted to tribal members and, therefore, it was all unallotted. Article I of the 1901 agreement was incorporated into the 1904 legislation. The legislation provided payment for all land ceded in Article 1 and made specific reference to the land excluded by the 1875 survey.

In consideration of the land ceded, relinquished, and conveyed by article one of this agreement, and in full of all claims and demands of said Indians of the Devils Lake Reservation . . . arising or growing out of the erroneous survey of the western boundary of their reservation in [1875], whereby about [64,000] acres were excluded therefrom . . . the United States . . . agrees to dispose of the said lands to settlers under the provisions of the homestead and town-site laws . . . and to pay to said Indians the proceeds derived from the sale of said lands . . .

Id. The tribe received the compensation referred to. Sisseton & Wahpeton Indians, 58 Ct.Clm. at 322.

In 1904 President Roosevelt declared the Spirit Lake Reservation open to homesteaders. He stated that the tribe had “ceded, conveyed, transferred, relinquished, and surrendered, forever and absolutely, without any reservation whatsoever . . . all their claim, title, and interest of every kind and character” Proc. of June 2, 1904, 33 Stat. 2368. He used the same language in opening the Rosebud Reservation, language the Supreme Court found to be “an unambiguous, contemporaneous statement, by the Nation’s Chief executive” of a perceived diminishment of the reservation. Rosebud, 430 U.S. at 602-03. See also Yankton Sioux Tribe, 522 U.S. at 354.

Just eight months after opening the Spirit Lake Reservation, Congress extended the time within which homesteaders could claim land within it. In doing so Congress stated that lands opened to homesteaders “were heretofore a part of the Devils Lake Indian Reservation.” Act of Feb. 7, 1905, ch. 545, 33 Stat. Pt. 1 700 (emphasis added). In 1907 President Roosevelt referred to the “former” Spirit Lake Reservation. Proc. of June 8, 1907, 35 Stat. Pt. 2 2143. In 1916 President Wilson also referred to the “former” Spirit Lake Reservation. Proc. of Apr. 26, 1916, 39 Stat. 1776. Other instances occurring in the years following the 1904 Act could be cited to show that the federal government, local governments, and tribal members themselves considered the reservation disestablished.

In sum, the 1904 Surplus Lands Act, even assuming it didn’t disestablish the reservation, undoubtedly diminished its size by effectively excluding the 64,000 acres from the reservation. When the tribe sought additional compensation in its 1917 action before the Court of Claims, it is, in light of these events, unsurprising that the court ruled the claim “so obviously devoid of merit.” Sisseton & Wahpeton Indians, 58 Ct.Clm. at 335. Any claim today that the 64,000 acres is within the reservation is equally devoid of merit.

4. Modern-day treatment of the 64,000 acres in question

I am unaware of any instance in which state and local governments have considered the 64,000 acres to be within the Spirit Lake Indian Reservation. I am also unaware of a single instance in which the Spirit Lake Tribe has asserted any kind of criminal, civil, or regulatory jurisdiction over people, activities, and land within this area. And the federal government, at least until just recently, has never considered the 64,000 acres to be within the reservation.

It is this long history of governmental action and non-action that is more indicative of the status of this land than assertions today by the BIA that the land is in the reservation. In fact, this is a novel idea by the BIA. Every BIA map of the reservation I have seen, and every BIA description of the reservation I have read, exclude the 64,000 acres from the reservation.

As mentioned, I am unaware of the tribe itself ever making, within the past 100 years, any kind of claim that the land is in the reservation. There is, on the other hand, an express tribal statement that the land isn’t in the reservation. A tribal chairman has formally so stated. In a 1985 affidavit Chairman Carl McKay stated the he was in his fifth term as tribal chair, having first been elected in 1974. Affidavit of Carl R. McKay at ¶ 2, Greywater v. Joshua, Civ. No. A2-85-222 (D. N.D. Dec. 5, 1985). In describing his reservation Chairman McKay stated: “The Town of Oberon is not within the exterior boundaries of the Devils Lake Sioux Reservation.” Id. at ¶ 7. Oberon is located just west of the 1875 survey line and thus is within the 64,000-acre tract in question. If this long-time tribal leader had considered the 64,000 acres to be within the reservation he wouldn’t have made the statement he did.

In 1986 the Spirit Lake Tribe sued North Dakota and the United States over proper interpretation of the 1867 treaty's description of the reservation's northern boundary. The case ended 16 years later when the Court of Appeals affirmed the District Court's dismissal of the tribe's suit, Spirit Lake Tribe v. North Dakota, 262 F.2d 732 (8th Cir. 2001), and the Supreme Court denied the tribe's petition for certiorari. Spirit Lake Tribe v. North Dakota, (U.S. Apr. 15, 2002) (No. 01-1185).

Had the tribe thought that the 64,000 acres excluded by the 1875 survey was indeed still in its reservation, it would have pursued a western boundary claim along with its northern boundary claim. The "entire controversy doctrine" required that it do so. A litigant who fails to bring all related matters when it sues waives all unalleged but related claims. *E.g.*, Kale v. Combined Ins. Co. of America, 924 F.2d 1161, 1165 (1st Cir. 1991)("when a plaintiff pleads a claim in federal court, he must, to avoid the onus of claim-splitting, bring all related . . . claims in the same lawsuit"); Epperson v. Entertainment Express, Inc., 242 F.3d 100, 109 (2d Cir. 2001)("policies underlying res judicata reflect the sensible goal that where possible all related claims be resolved in one proceeding"); Wilkins v. Jakeway, 183 F.3d 528, 532 n.4 (6th Cir. 1999)("the doctrine of res judicata [compels] litigants to bring all related claims in one suit").

The tribe only sued over its northern boundary. Its 1986 Complaint didn't raise the western boundary. Throughout this long litigation, the tribe never sought, as it could have, to amend its Complaint to assert a western boundary claim. This is an implicit but nonetheless clear tribal acknowledgment that there is no validity to the claim that the 64,000 acres is in the reservation.

5. Summary.

In sum, the western boundary issue has arisen on various occasions. When it first appeared, Congress compensated the tribe and not only declined to change the boundary but expressly stated that the 64,000 acres is "not included" in the reservation. Act of Mar. 3, 1891, ch. 543, 26 Stat. 1010.

The second time the issue appeared Congress again awarded compensation. This was in return for the Spirit Lake Tribe's agreement to "cede, surrender, grant, and convey to the United States all [the tribe's] claim, right, title, and interest" to the land. Act of Apr. 27, 1904, ch. 1620, 33 Stat. 321. This and other circumstances diminished, or affirmed diminishment, of the reservation by excluding the 64,000 acres from it.

The third time the issue arose the Court of Claims ruled that the claim was denied because it was "so obviously devoid of merit." Sisseton & Wahpeton Indians, 58 Ct.Clm. at 335. The fourth time it arose, that is, in the context of the tribe's 1951 aboriginal land petition to the Indian Claims Commission, the tribe didn't even assert that the land was in the reservation but just that the prior compensation it had received was inadequate. The Indian Claims Commission awarded additional compensation, which has been described as "full compensation." Devils Lake Sioux Tribe, 917 F.2d at 1052.

Apparently, the BIA today takes the position that the land is still in the reservation. This fails to respect, among other things, the history of claims, litigation, and Congressional actions regarding the 64,000 acres. The tribe's failure to include the western boundary when it sued over its northern boundary, and Chairman McKay's sworn statement that this is not reservation land, are far more indicative of the true status of the land than BIA assertions regarding it.

May 7, 2002

District Engineer
St. Paul District, Corps of Engineers
ATTN: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

RE: Devils Lake Outlet Project
Draft Integrated Planning Report and Environmental Impact Statement (DEIS)

Dear Mr. Loss:

The Minnesota Department of Natural Resources (DNR) has reviewed the above-referenced document and we offer the following comments for your consideration and response in preparing a final environmental review document. Our comments are divided into a general comment letter containing conclusions from our review and an attachment with detailed comments on the document content.

General Conclusions

- 1) The stochastic model methodology of forecasting likely future conditions and flood damages indicates that the preliminarily selected outlet project, the Pelican Lake 300 cfs outlet, is not economically feasible (i.e., 0.37:1 benefit-cost ratio). We agree with this finding and recommend that you look no further in attempting to find an economic justification for an outlet alternative.
- 2) The DEIS, in discussing the findings of the stochastic model, states that the Pelican Lake 300 cfs outlet reduces the probability of a natural overflow from 9.4 percent to 4.1 percent. (p. 1-S-10.) The 90.6 percent of future conditions that do not result in an overflow would make the project unnecessary and under 4.1 percent of possible future conditions the outlet would be ineffective. Therefore, there are only 5.3 percent of the 10,000 possible future conditions, which have only a 1 in 1,000 chance of occurring in any year, under which the Pelican Lake 300 outlet would prevent a lake overflow. Aside from the likely shortcomings of the model in predicting actual conditions, we believe that this is an extremely small potential target of future conditions on which to base expenditures of public funds and to cause the deliberate degradation of downstream environmental conditions.
- 3) The analysis of alternatives in the DEIS is biased toward the selection of an outlet alternative rather than the most environmentally and economically sound alternative. While the preliminarily selected outlet alternative, the Pelican Lake 300 cfs project, is the least environmentally damaging *outlet* project, it is not the most environmentally and economically sound *alternative*. We noted the following problems with the feasibility of the Pelican Lake outlet:
 - substantial legal issues related to Minnesota water quality standards and the Boundary Waters Treaty with Canada

- certain adverse downstream impacts to alleviate only *remotely possible* future flood damages
- possible export of economically costly exotic species from an ecologically volatile, newly enlarged lake that is visited by large numbers of recreationists from distant areas
- potential cessation of the outlet operation, either by the COE or legal action, if species such as the zebra mussel appear in the lake, making the project financially risky
- certain ecological damage to the Sheyenne River, including substantial channel erosion, sedimentation, and long-term instability
- further impairment of Red River water quality and phosphorus loading to Lake Winnipeg
- additional costs for water treatment for Red River mainstem communities.

4) The “Wet Scenario” must not be used as a basis for making a final project recommendation. The “Wet Scenario,” as an artificially derived and extremely unlikely scenario of hydrologic events, is not comparable to the statistically derived stochastic projections. Our attached detailed comments on the climatological assumptions in the model explain statistical improbability of the wet scenario. It is our understanding that the COE developed this scenario after the North Dakota Congressional delegation expanded the Purpose and Need statement when preliminary results indicated that an outlet was not economically justified for flood protection, and that it was designed to result in a natural runout of the lake. We acknowledge that development of such a scenario is appropriate for use as a tool to identify the environmental effects of one type of natural overflow event. However, it does not have the statistical validity to serve as a basis for establishing a benefit-cost ratio that might be used to justify a major commitment of public funds and deliberate impairment of downstream resources.

5) The economic analysis of alternatives under the wet scenario assumes that a rising lake is always detrimental and it either ignores economic benefits from expanded fish and wildlife resources or holds them constant. The positive economic analysis of the Wet Scenario (2.63 benefit-cost) is based on analyzing flooding damages that are incrementally avoided or delayed because of an outlet. However, this analysis disregards the fact that as the lake rises, the economic value of its fish and wildlife resources increases substantially because of increasing shoreline complexity and a favorable deep water to littoral zone ratio. At its runout elevation, Devils Lake would be vying with Minnesota’s Upper and Lower Red Lakes combined in being the second largest lake in the Red River basin after Lake Winnipeg. At this size, with extensive waterfowl hunting, and sport fishing, the lake will serve as a base for a very high value regional economy. Such values are maximized by letting the lake rise without providing an artificial outlet. As noted in the DEIS, if the lake level continues to rise up to the outlet elevation, flood damage reduction measures are assumed to be implemented as needed in *all* scenarios—it is just a matter of when. At a minimum, the economic analysis needs to do a better job of assessing and including the economic benefits accruing from the ecological richness of a rising lake. Beyond that, the EIS should answer the question: is it economically beneficial to let the lake rise without a constructed outlet in order to reap the ecological benefits while constructing the necessary flood damage protection?

6) It seems reasonable to conclude that a natural overflow of the Devils Lake basin through the Tolna Coulee will not result in severe downcutting or erosion of the outlet. Geologic indications at the Stump Lake run-out point (i.e., neither a ravine nor evidence of previous downcutting) indicate that outflow during any previous wet period was not substantial enough to cause erosive downcutting of the outlet. Estimates of outflow events range from 6 to 9 times in the last 10,000 years. Therefore, the preponderance of evidence is that catastrophic flow effects of a natural outflow could almost certainly be prevented by construction of the sort of weir and emergency spillway that is described in the Economic Analysis, Appendix B, Vol. 2.

7) The DEIS does not adequately identify key environmental impacts in sufficient detail to fully enumerate the magnitude of downstream impacts from an outlet. For example, it contains conclusions downplaying important adverse impacts from exotic species and downstream water quality impacts (e.g., pages 5-92-94) that are not supported by the sections of the DEIS analyzing these topics in detail. Furthermore, pages 1-S-12 and 5-93 of the DEIS state that details of these impacts will be left to supplemental EISs or determined by “extensive resource monitoring...to quantify specific impacts and identify acceptable mitigation measures.” We believe that deferring such important analyses and decisions until after the Final EIS is issued does not comply with NEPA and its regulations.

8) The most cost effective solution remains the incremental approach of building protection as necessary and warranted, allowing each decision to add protection to be weighed against the existing and reasonably foreseeable past and future. Due to the nature of closed basin flooding this is a reasonable approach since the flood is “slow creep” as opposed to a dynamic flow like river flooding.

Thank you for your consideration of these comments. Please refer to the detailed comments in the attachment. Contact Don Buckhout of my staff at (651) 296-8212 or Don.Buckhout@dnr.state.mn.us if you have questions about these comments.

Sincerely,

Steven J. Morse
Deputy Commissioner

c: Craig Johnson- Governor’s Office
Karen Studders- MPCA
Ron Harnack- BWSR

The following comments address specific sections or topics in the DEIS and Integrated Planning Report.

PROJECT PURPOSE AND NEED

According to DEIS pages 1-4 and 1-5, “The purpose of the proposed action is to reduce the flood damages related to the rising lake levels in the flood prone areas around Devils Lake *and* to reduce the potential for a natural overflow event.” (emphasis added.) The content and conclusions of the Integrated Planning Report and Draft Environmental Impact Statement (DEIS) are based on this project purpose and need. Furthermore, this statement of purpose and need is the basis for the entire alternatives analysis, and strongly biases the analysis toward selection of an outlet.

However, the original purpose and need described in the February 1999 Scoping Document only contained the first clause, and did not address an overflow event. The North Dakota Congressional delegation objected to this, and the Corps of Engineers (COE) published an additional scoping document adding the second clause in December 2000. (DEIS, Appendix 2, Vol. 1, p. 2-1)

It is clear that adding the second clause to the purpose and need statement has greatly influenced the analysis of alternatives. In addition, this change was made after the COE had completed the draft of the initial report to Congress and supplied this report to the North Dakota Congressional delegation, according to statements made to the MDNR and to the US Fish and Wildlife Service.

Expanding the project purpose and need statement to include a requirement that the COE analyze consequences and “solutions” to a natural run-out at elevation 1459 interjects an analysis of extremely unlikely events into what should be a relatively straightforward analysis of impacts and weighing of alternatives. Therefore, the “wet scenario,” which is an artificial construct of an improbable future event as discussed in our comments below, is given equal standing with the much more statistically valid probabilistic future conditions developed by the stochastic model. At a minimum the DEIS needs to make a clear distinction between the weight given to potential effects associated with the more statistically based future conditions and that given to the artificially constructed “wet scenario” based effects.

REPORT TO CONGRESS

We have questions about the procedures and decisions that are underway or pending on this project. Section 1-2 of the DEIS, entitled “Authority,” states that the COE will submit final plans to Congress, including a review by the Secretary of State regarding compliance with the Boundary Waters Treaty. It further states that the COE must make a determination that an emergency exists, and that the construction is technically sound, economically justified, environmentally acceptable, and in compliance with the National Environmental Policy Act (NEPA).

There are several issues that should be addressed in the EIS because they are required by the NEPA and therefore must be included in the report to Congress.

1) According to the analysis, the 300 cfs outlet flow rate needs to operate for many years to have any chance of influencing the potential for a natural overflow event. Has the COE determined that the “wet scenario” and natural overflow consequences are so serious as to warrant that an emergency exists in the present, as defined in section 102 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act? (See “Authority,” DEIS, page 1-2)

2) It appears that the COE intends to use the Integrated Planning Report and EIS (and comments on the draft) to make a recommendation to Congress according to its responsibilities as described on page 1-2. We believe that the information to be obtained in supplemental EISs (mentioned in several locations in the DEIS as being necessary) will influence the selection of alternatives. Will the recommendation await the completion and review of these additional studies?

3) The DEIS appears to rely substantially on cost-benefit information to influence its selection of alternatives, yet it also describes very substantial downstream environmental and economic impacts. The economic analysis includes a figure of \$12 million/year as mitigation for these damages. However, much of this pertains to increased costs for municipal water treatment. This leaves out other impact costs for which there are methods for economic valuation. For example, there is an estimate in the EIS for increased phosphorus loading to Lake Winnipeg. We believe that an adequate economic analysis would include the cost of equivalent treatment for phosphorus in the project’s benefit-cost ratio.

4) In responding to the U.S. Fish and Wildlife Service Coordination Act Report (pages 6-16 through 6-23), the DEIS states at various points that certain recommended actions are not under its control but rather under state control. Examples include actions regarding drainage, and a basin-wide water management plan. We recommend that the report to Congress include recommendations regarding state actions that could be taken to reduce the need for an outlet and to reduce impacts. NEPA does not restrict an EIS analysis to only those actions that can be implemented by the project proposer.

5) The COE expanded its Purpose and Need statement in response to the urging of the North Dakota Congressional Delegation. (see above) As noted on page 6-17, the COE “is not authorized to pursue upper basin storage at this time.” We recommend that the report to Congress contain an explanation of the limitations of this Purpose and Need statement that constrains the selection of alternatives.

6) The Preliminarily Selected Plan (300 cfs Pelican Lake outlet) forecasts a violation of Minnesota water quality standards and the Clean Water Act. The report to Congress should include an explanation of international treaty and legal constraints regarding water quality and how constraining they are on a project implementation decision.

7) The Final EIS and Report to Congress should describe what actions the COE would take if damaging biota that are not already in the Red River basin (e.g., zebra mussels) appear in Devils Lake after an outlet is completed. The possibility of such a scenario is described in the DEIS and

supporting documents. An obvious and appropriate action would be shutting down the operation of any outlet when this occurs. We believe it is imperative that the COE include the planned operations under the full range of environmental conditions in the report to Congress.

8) We recommend that the COE provide a procedure whereby Minnesota state agencies can comment on the report to Congress prior to its transmittal. We recognize that there is a NEPA procedure regarding finalization of an EIS. However, as the document notes, this report is more than an EIS. In the planning process, we assume your procedures require the fullest possible participation in project evaluation. The COE must also comply with the consultative requirements of the U.S. Fish and Wildlife Coordination Act regarding the reviewing role of state fish and wildlife agencies.

ALTERNATIVES ANALYSIS

Uneven treatment of hydrology and ecological analysis for the wet scenario

The DEIS does not address the ecological implications (both positive and negative) of the wet scenario to same extent as the analysis of flood damage impacts. For example, as the lake rises, the economic value of its fish and wildlife resources increases because of its increasingly complex shoreline and favorable deep water/littoral zone ratio. At its runout elevation, Devils Lake would be the third largest lake basin in the Red River watershed, after Lake Winnipeg and Minnesota's Upper and Lower Red Lakes. At this size, waterfowl hunting and recreational fishing will be of very high economic value. Letting the lake rise without an outlet maximizes such values. As noted in the DEIS, continued flood damage protection up to the outlet elevation is implemented as required regardless of the projected future condition—*it is just a matter of when*. This topic is partially discussed on page B-31, in a section called "Raise the Natural Outlet." This section includes a description of the additional costs of land purchase, which are estimated to be \$27 million. However, this is a one-time cost, while the economic value of the fishery of such a large lake will occur every year while the lake is high. The economic analysis needs to incorporate the economic benefits accruing from the ecological richness of a rising lake. In other words, is it better economics to let the lake rise more quickly and reap its ecological benefits while applying flood damage reduction? Even though these benefits would fade when the drier cycle returned, so do the flood damages disappear as the lake level falls.

Biota transfer as a factor in alternatives analysis

The DNR stated in its previous comments to the COE that it did not support an attempt to do a numerical risk assessment of biota transfer because the ecological uncertainties involved would make such an attempt meaningless and misleading. However, this does not mean that the risk of biota transfer should not enter in the decision process regarding selection of alternatives. (See review of the biota transfer issue below.)

The DEIS states, "Given the uncertainty and controversy around the ability to forecast future lake stages, a decision to proceed with an outlet must also consider risk aversion. Instead of relying on the probability analysis, one could view the construction of an outlet as an insurance

policy, rather than an investment. That is, what is the relative risk of not building an outlet, versus building an outlet, and not needing it?” (p. 1-S-3.)

This reasoning must also apply to biota transfer because the economic and environmental costs of spreading such biota as zander and zebra mussels into the Red River basin are very large. Such costs would add to the economic costs of a constructed outlet.

Given the topography of this basin, at natural runout elevation the projected 434 square mile lake will have very diverse and likely rich habitats, as discussed above. The water quality will be less saline than now, with a substantially more rich and varied recreational fishery. Such a lake will attract even larger numbers of users from long distances. As the EIS notes, based on research done for the North Dakota Game and Fish Department, these recreationists come from areas infested with aquatic exotic species such as zebra mussel. (Grier and Sell, 1999, referenced in the Biota Transfer Study) Therefore there is a potential for an increase in introductions of species of concern for biota transfer as lake levels increase and an increased potential for actual transfer out of the basin with any of the outlet alternatives.

It is our opinion that the above factors need to be integrated into the analysis of alternatives. We expect that the comparison of outlet plans, as summarized in Table B on p. 1-S-4, would likely be substantially changed as a result.

CLIMATE AND HYDROLOGY

The USGS basin model for Devils Lake is used with both a stochastic modeling of future climate and with a set of specific assumed futures called scenarios. In both cases a combination of most recent and longer observed conditions are used.

Stochastic model use and result

The stochastic model used to form future values of precipitation, evaporation, and inflows to Devils Lake uses the statistics of the 1980-99 for the first 15 years into the future and the 1950-99 (period-of-record) for the last 35 years of each simulation. The results that 9.4 percent of the 10,000 expressions (traces) of the future climate reach the level where outflow to the Sheyenne River occurs results in a benefit to cost ratio that is less than one. That is, despite the use of a ‘wet start’ for the model, the project is not justified by the results of this modeling effort. Further, it can be seen that the model results are very sensitive to the assumed statistics. Figure H-10 (Appendix A) shows a clearly defined peak in the probability of any lake level that occurs at the end of the 15-year wet start.

Stochastic model – reasonableness of ‘wet start’ assumption

The justification for the use of a ‘wet start’ where the recent wet period (80-99) is used as the statistical basis for stochastic modeling appears reasonable. Years with 20 inches or more, for instance, occurred 10 times between 1980 and 2000 while in the even longer period of 1949 to 1979, it happened only 3 times.

The condition of recently rising precipitation is not geographically isolated at Devil's Lake. It is common across Minnesota. The condition of higher precipitation is also not new in the local climate. In the Red River basin (see www.dnr.state.mn.us/waters/programs/gw_section/climate/red_river_precip.html), wetness of similar intensity to the recent wet conditions did occur about a century ago. Whether climate is actually changing or we are simply experiencing a fluctuation which could be expected based on past observations is impossible to answer definitively.

Stochastic model – reasonableness of generated values

As discussed by Vecchia (p. 82, Vecchia, 2002)

The validity of the time-series model also should be questioned if the model produces physically unrealistic values of a particular statistic (for example, 10 inches of average annual evaporation and 50 inches of average annual precipitation are unrealistic values for those statistics for the Devils Lake Basin).

Given the above qualifier, the reasonableness of the 'wet start', and the other discussion offered by Vecchia, the statistics offered for generated results seem entirely reasonable. However, no 'physically reasonable' range is so readily discernable for inflows.

Stochastic model – inflow

A peak of inflow (from Big Coulee and Channel A) occurred in each of the years 1993-1999. In 1993 the peak in flow occurred in August following a June-July precipitation total of 18.5 (roughly the same amount as what is normally expected for a whole year). In all other years, each peak is centered on either April or May and was obviously the over-winter snow accumulation melting off the landscape. (Table B1, Vecchia, 2002)

The total inflows of the 1993-1999 period from Big Coulee and Channel A are about 2 million acre-feet and as such represent 80% or more of the volume that the lake gained in that same time period. That is, during 1993-99 inflows dominated the behavior of the lake.

Because inflows can be so dominant, a model to generate them should closely resemble the flows that can (and have) actually occurred. Perhaps the best way to do that would be to "drape" randomly generated precipitation and evaporation across a computer-based watershed model in order to generate inflows. Vecchia refers to such capabilities in his most recent discussions (p.74, Vecchia, 2002) but eschews their use.

In an earlier paper describing Devils Lake simulations (figures 6, 7, Wiche, et al., 2000) a trace exhibiting an annual inflow exceeding 1.8 million acre-feet and another with 3 of 4 years in a row with inflows near or above about 700,000 acre-feet are shown. Both 'inflow events' result in natural outflow. In a recently released description of such simulations, Vecchia states (p. 83, Vecchia, 2002)

... the probability of a very high inflow sometime in a 20-year period is moderate as indicated by the large range of generated values for maximum annual inflow. Of the generated values, 10 percent exceeded 1,129,100 acre-feet, which is more than twice the

historical inflow that occurred in 1997 (488,800 acre-feet). Such a high inflow easily could occur given a winter snowpack similar to that in 1997 and a wet spring and summer similar to those in 1999.

However, it is not clear how such a large value could actually occur. The summer of 1999, with the months of May-August receiving 14.33 inches, did *not* produce exceptional inflows. However, in 1993, June-July brought 18.5 inches (on the order of what can normally be expected for an entire year) of precipitation to the area. The total inflow in 1993 following that heavy precipitation period was apparently less than 200,000 acre-feet. The sum of the inflows of *these* 2 extreme events (winter 1996-97 and summer 1993) is only 700,000 acre-feet. That is, even allowing for the very low probability occurrence of 2 very low likelihood events occurring within the same year, it would seem to still be difficult to reach the high values that the random generator creates. Note that the generator creates *many* large inflows exceeding the 700,000 value mentioned here; apparently more than one-tenth of the 20-year runs contain an annual value in excess of 1,000,000 acre-feet.

For evaporation and precipitation, “reasonableness” is essentially known and is cited (p. 82, Vecchia, 2002) as guidance, which confirms the reasonableness of the trace values. For inflows, however, no such guidance apparently exists. While Vecchia notes that recorded values of inflow are “well within the range of generated values” that does not ensure that the full range of generated values is reasonable. The very limited record of inflows cannot be expected to accurately encompass the full range of possible inflows because they are influenced by antecedent hydrologic conditions, which may be integrated over long periods. Given those limitations, the greatest monthly in-flow *of record* is less than 250,000 acre-feet. As periods greater than one month are examined, of course, the monthly average of the maximum flows drops off. At 12 months, the maximum total inflow for the period is under 500,000; at 24 months the period total is still less than 900,000 acre-feet.

While the stochastic equations apparently reproduce the average of the inflows correctly, there seems to be no mechanism for a hydrological condition that is persistent between years that could lead to persistent responses of the watershed to, say, the melting of over-winter precipitation. So, while a string of persistently high outflows can occur, it would be the result of large anomalies occurring each year rather than an accumulated response to more moderate expressions of the climate. Persistent antecedent conditions matter: October-March precipitation totals for the winters of 80-86 were comparable to values which produced the inflows of 94-99; yet the inflows produced were typically nearly an order of magnitude smaller.

Scenarios

Without the ability to assign a probability to each scenario, the justification for the use of scenarios can only be for illustration. Each scenario is a “what if” exercise. A lack of confidence in the ability to know the true probability of lake levels higher than present levels perhaps adds to the justification for scenarios.

The period of 1993-99 is striking in that large inflows occur in *each* year. Because of those inflows, stringing 3 such periods back-to-back guarantees “natural” outflow as depicted in the “wet scenario.” Why such a method to construct a wet scenario was chosen rather than using

one of the approximately 940 model traces that overflowed, as was used for the 1450 and 1455 scenarios, is not made clear.

The 1993-99 period contains the 18.5-inch June-July total of 1993 and the snows of the winter of 96-97 (the “flood of the century” occurred in adjacent Red River in spring 1997). To repeat events of such unusualness 3 times in 21 years is very improbable. The statement in the abstract of volume 1 of the EIS that

...[i]f this future wet condition occurs (not factoring in the actual probability of occurrence since a specific scenario is assumed to have a 100 percent chance of occurring), the benefit-cost ratio for the best outlet plan is 2.63...

could be misconstrued. An assumption of a 100% chance that such a condition will actually occur in the next 50 years would be nonsense.

Conclusions

- the assumption that the climate conditions of the next 15 years will resemble the climate of the relatively wet 1980-99 period seems reasonable
- the stochastic climate generator seems to generate acceptable precipitation and evaporation values
- the stochastic climate generator may generate too many very large inflows (that recorded values of inflow are “well within the range of generated values” does not ensure that the full range of generated values is reasonable)
- the resulting 9.4 percent chance that Devils Lake will overtop its natural outlet in the next 50 years seems reasonable
- the specific ‘wet scenario’ is probably as good (maybe better) as any of the 940 (9.4 percent of 10,000) stochastic model traces that naturally overflowed for the purposes of comparing project alternatives.
- the probability that the “wet scenario” specific sequence will actually occur in the next fifty years is virtually zero, and so it is useless for decisions based on probability-weighted benefit versus cost.

The 1993-99 period demonstrates that relatively high inflows seven years in a row *can* occur. That form of behavior depends on antecedent hydrologic conditions in the watershed. The importance of understanding that relationship is emphasized by the Utah Water Research finding that “declared the lake level behavior as a nonstationary response to climate.” The ability to model the recurrence frequency of such antecedent conditions and thus modify the runoff efficiency may be important to improving confidence in model results. This *may* require a shift from statistical models to physically based/watershed models for inflow.

DOWNSTREAM IMPLICATIONS OF MORPHOLOGIC IMPACTS TO THE SHEYENNE RIVER

Downcutting at the natural outlet

While some downcutting in the No Action/natural overflow scenario is also possible, catastrophic downcutting is unlikely. Flows entering the coulee would increase much more

slowly and be much more stable than most rivers due to the large amount of storage in Devil's Lake. Rivers with stable hydrology also tend to be geomorphically stable since soil saturation is stable, and channel substrates and bank vegetation are not subjected to rapid changes in flow. The natural overflow scenario would also provide much more stable hydrology than the pumping alternative. Since the probability of overflow is low (9 percent in the next 50 years according to estimates presented in the DEIS), the probability of channel changes resulting from the no pump alternative is also low. Since run-out has occurred in the past, the run-out channel has been subjected to overflow conditions. Furthermore, in the event that the runout elevation was reached or was imminent, rock riffles could be constructed in the outflow channel to prevent significant changes in grade if downcutting appeared to be a problem.

Hydrologic impacts

An increase of 300 to 480 cfs to base flow conditions will cause an increase in flood magnitude since naturally occurring floods will be larger by that amount (particularly summer thunderstorms). There is no indication that increased flood damages have been figured into the benefits: cost analyses.

Regulation of flow by pumping will cause abrupt changes in stream habitat, which may cause stranding, and adversely effect invertebrates and fish reproduction. Instead of gradually diminished flow as exists in the current regime, sudden discontinuation of flow in the fall is likely to leave fish in unsuitable habitat due to the lack of normal flow cues, which prompt downstream migration. Overall instream habitat will be deeper, faster and less favorable to young-of-the-year fishes under the pumping scenario. This could result in reduced recruitment, which may effect stream fish populations not only in the Sheyenne but also in the Red River of the North.

Estimates of bankfull flows

The preliminarily selected plan calls for up to 300 cfs flow added to the Sheyenne, as long as this flow combined with flows in the Sheyenne do not exceed 600cfs. The 600 cfs figure is an important project constraint, and was selected on the basis that it was an acceptable flow that could be carried by the river.

The field-determined bankfull flow estimates used in the DEIS are questionable. The geomorphology study is apparently based on the "Upper Sheyenne River Channel Capacity Study" by the North Dakota State Water Commission (1997). There are several shortcomings in the procedures used in this study.

The data shown here indicate most reaches have a capacity near or greater than a 2-year runoff event. Our geomorphology database of tributaries of the Red River shows few stream cross-sections with a capacity exceeding a 1.5 year event. It is more common to find bankfull capacity ranging from 1.2-1.5 year recurrence in agricultural streams. It seems unlikely that standard procedures for determining bankfull capacity were followed for this study. The criteria for bankfull stage was not clearly defined but apparently were the incipient point of flooding, and no other indicators are mentioned. While this criteria is appropriate for non-entrenched "e-

channels” it is not appropriate for most tributaries of the Red River, which are moderately to very entrenched.

Several cross-sections show out-of-bank flow at well under 500 cfs and yet the study concludes the same cross-sections can carry much more. It appears that gross overestimates of bankfull capacity have been made in this study. If these data are the foundation for the geomorphology study, there are likely to be significant over-estimates of bankfull flow. This would also lead to significant underestimates of both morphological effects and erosion and sedimentation due to the proposed Devils Lake Outlet.

Field determination of bankfull should be done in proximity to USGS gages where bankfull stage can be tied directly to the gage and bankfull discharge can be determined from the rating curve for the gage. Bankfull determinations should be made using appropriate indicators in accordance with “Stream channel reference sites: and illustrated guide to field techniques” Harrelson et al. (1994). This is available on-line at (www.stream.fs.fed.us/PDFs/RM245.PDF). HEC-RAS analyses of bankfull stage are dependent on accurate assumptions regarding Manning’s n values. Manning’s n values could be determined from the gage sites at bankfull flow and these values could be applied at ungaged sites.

Sediment rating curve

While the sediment data is useful, the lack of bedload measurements limit its utility for determining effective discharge. Furthermore, field determination of bankfull is more pertinent to channel capacity. While effective discharge and bankfull are generally considered to be similar, difficulties in accurately measuring sediment load (particularly bed load), and variability of sediment load among flood events of similar magnitude and ascending versus descending limb of the hydrograph, etc. make use of sediment : discharge data less reliable than appropriately derived bankfull determinations.

Since pumped water from Devil’s Lake will be essentially sediment-free the tendency of the channel to downcut is greater. It is unclear whether this was incorporated into modeling efforts. There is no indication that increased bank erosion and enlargement of the channel has been incorporated into the benefit-cost analysis.

The overall effect of procedures used in this study would tend towards underestimation of erosion and sedimentation impacts.

BIOTA TRANSFER

This section of the DEIS does not adequately address the implications of the biota transfer study that was completed by Peterson Environmental Consulting. The DEIS does not provide an adequate impact assessment of this potential impact and does not transfer these implications to the alternatives analysis.

The biota transfer technical report that was done by Peterson Environmental Consulting generally followed the scope of work we recommended regarding identification of problem

species, consultation with experts, and literature review. However, it did not continue to the next step in the MDNR proposed methodology, which was to provide an assessment of ecological, environmental, and economic impacts from the spread of these species. The technical report, and the DEIS, conclude that “based on all available information, it appeared highly unlikely that downstream habitats would suffer substantially as a result of biota transfer caused by the Devils Lake outlet project.”

However, both the DEIS and the biota transfer report itself provide explicit information that contradicts this conclusion. But even more importantly, the DEIS does not draw conclusions about the future feasibility/cost of an outlet because of possible adverse impacts from biota transfer. We noted the following quotes from the Peterson Report:

- 1) “Perhaps the most important finding of this study was the revelation of just how poorly the biota of the Devils Lake basin and (to a somewhat lesser extent) the Red River basin are known.” (Biota Transfer Study, p. v)
- 2) “Coverage gaps found in the existing data included:...inconsistent coverage of biota groups. This last type of data gap was particularly obvious in the complete lack of data on Devils Lake basin fish pathogens, the poor coverage of fish parasites, the lack of vascular plant studies, and the near lack of studies on non-planktonic invertebrates in all the waters of the basins in question, except Lake Ashtabula and Lake Winnipeg. (Biota Transfer Study, p. v)
- 3) As a qualification of the EIS finding quoted above, “...available information was inadequate to allow conclusive statements to be made regarding all aspects of biota transfer.” (Biota Transfer Study, p. vi)
- 4) “It is presently unknown whether any known exotic, invasive species are now present in Devils Lake. Therefore, it is recommended that...chemical and algal monitoring programs should accompany the outlet project, fish pathogen screening should be implemented (already underway), and that surveys for the following invasive species (at a minimum) should be carried out in Devils Lake before the outlet begins operation: rusty crayfish, spiny water flea, zebra mussel, and Chinese mystery snail and relatives.” (Biota Transfer Study, p. viii, emphasis in original)
- 5) “Many obstacles were encountered (in the study) which prevented a strict adherence to the Statement of Work. Most of these obstacles were the result of inadequate data on the biota of the Devils Lake and Red River basins.” (Biota Transfer Study, p. 144)
- 6) “The recent water level rise has created much new favorable habitat in Devils Lake for many species and has attracted increasing numbers of fishermen and recreational boaters. These anthropogenic factors are among the most important vectors of several harmful species in areas that they have invaded.” (Biota Transfer Study, p. 144)
- 7) “Aggressive, focused studies should be implemented to confirm that none of these known problem species have become established in Devils Lake. These species include zebra mussel (*Dreissena polymorpha*), spiny water flea (*Bythotrephes cederstroemi*), rusty crayfish (*Orconectes rusticus*), and perhaps others (e.g. Eurasian watermilfoil, mystery snail, zander). Any of these species could possibly find very favorable habitat in

Devils Lake. The zebra mussel in particular could exploit the newly freshened habitats that have traditionally been too saline for mussels.” (Biota Transfer Study, p. 144)

Consideration of biota transfer potential in evaluating alternatives

An equivalent treatment of the issue of biota transfer in the DEIS alternatives analysis is still needed.

The ecological implications of an enlarged Devils Lake as it grows to the run-out elevation need to be addressed. According to the DEIS, the surface area of Devils Lake in January 2002, including Stump Lake, is 206 square miles (132,000 acres.) If the lake reaches its natural runout elevation, the surface area will be 434 square miles (278,000 acres), more than doubling its current size. It will become about the same size as Upper and Lower Red Lakes combined (288,800 acres) and therefore would technically be the second largest lake in the Red River Basin, only surpassed in size by Lake Winnipeg. It is just as necessary to describe the various ecological issues and economic benefits related to a lake of such a magnitude and integrate this information into the decision process as it is to address the flood damage and downstream consequences. This has not been done.

A proper integration into the alternatives analysis of the risk of species such as zander and zebra mussel appearing in this future large lake need not be numerical. Rather, the analysis should address the implications to the project feasibility if these species appeared in the lake after project operation. Options available, assuming the species has not yet appeared elsewhere in the basin, are limited to construction of some sort of barrier, or the shutdown of outlet operation. The COE needs to make a determination of what it would do if this event occurred, and then integrate that into the alternatives analysis as a project risk.

MDNR believes that ecological implications must be integrated into *any* outlet scenario. We feel that, for example, if zebra mussel appeared in Devils Lake after construction, and were not yet found elsewhere in the basin, the outlet should be shut down because of the potentially significant adverse economic and environmental consequences. The analysis should acknowledge that this detracts from the economic feasibility of outlet alternatives, and likely influences the selection of alternatives.

Conclusions about biota transfer

Fish pathogens and parasites have been indicated to be a potential problem for a proposed outlet of Devils Lake for many years. Yet this report indicates that in spite of the prominence of the issue of biota transfer over the span of the controversy about a Devils Lake outlet, and the Garrison Diversion project, few or no studies have been conducted of these key biota of Devils Lake.

The report indicates studies need to be done of very problematic, invasive species before an outlet is constructed. Neither the EIS nor the Peterson Report discusses the implications of finding zebra mussel or some of the other species in Devils Lake.

The EIS is also silent on the environmental and economic impacts of the downstream effects of the listed species, should they become established in Devils Lake and escape in the outlet before

monitoring finds them. We also would note that the zander specimen (likely from natural reproduction) that was collected in North Dakota came from a body of water where intensive fish sampling had failed to detect it for a number of years.

The type of monitoring program recommended in the Peterson Study would need to be intensive, and would likely be expensive and must be included in the economic analysis.

NEPA regulations (CEQ Regulation 1502.22) specifically address how the preparer of an EIS should address incomplete or unavailable information. This regulation states: “ ‘reasonably foreseeable’ includes *impacts* which have catastrophic consequences, even if their probability of occurrence is low.” (emphasis added.) It is clear that the COE has applied this standard to flooding events, but not to the spread of such biota as zebra mussel into the Red River basin. Further, the regulation says that “if the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives, the agency shall include the information in the [EIS].” It goes on to explain conditions where the information is too costly to obtain or methods of obtaining it are unknown.

We believe that the COE has wrongly applied the main elements of this regulation to the biota transfer issue. The COE has noted that little information is available on the *presence* of damaging biota in Devils Lake, and even the Red River basin. However, the DEIS lists specific damaging biota such as zebra mussel, and describe likely *and reasonable* routes of invasion to Devils Lake. The CEQ regulation, on the other hand, refers to *reasonably foreseeable impacts*.

There is a large amount of credible scientific literature regarding the economic and environmental damage caused by invasion of such species as zebra mussel. An adequate assessment of the downstream impacts of a zebra mussel invasion does not depend on answering the question of whether zebra mussel are already present in Devils Lake. We entirely agree with the COE that determining this would be very difficult. But answering this question is not necessary for the EIS impact assessment of this topic. According to this regulation, if the DEIS concludes that the presence of zebra mussel is likely enough to require monitoring, then an impact assessment must be done and the economic and environment costs must be incorporated into the decision process in some manner.

UPPER BASIN STORAGE

The DEIS finds that this alternative is not economically feasible. However, the US Fish and Wildlife Service report (Appendix 2, Vol. 1) finds that the study of this alternative greatly underestimated the amount of wetlands available for restoration and for flood storage. This suggests that the feasibility of this alternative may have been underestimated.

While the study evaluated wetland restoration, it did not apparently evaluate land use alternatives as a means of reducing runoff. Conversion of tilled land to deep-rooted native grasses has been shown to dramatically reduce runoff. This could be coupled with wetland restoration to increase natural storage and decrease runoff. These land-use changes could be accomplished through

perpetual easements, CRP, land acquisition, and incentives or encouragement of rotational grazing.

The DEIS correctly indicates that delineation of drained wetlands using topographic and National Wetlands Inventory maps is conservative. Comparison of similar techniques to pre-drainage aerial photos in Western Minnesota indicated gross underestimation of drained wetlands when delineated in this way. It is likely that the actual number and area of restorable wetlands is several times greater than indicated by the methods used.

Recreational opportunities for hunting should increase with wetland restoration. Benefit: cost ratios of wetland restoration are generally viewed as greater than one even when flood storage is not included due to wildlife and water quality benefits. These additional benefits should be recognized in the analysis.

WATER QUALITY IMPACTS TO RED RIVER BIOTA

The draft Aquatic Impact Analysis Report, concerning the (apparent) preferred alternative, states that at Halstad "...sulfate levels are moderately increased and chloride levels are highly increased compared to baseline levels." (p. 55)

This report, which is based on modeling, goes on to say that biota will be unaffected by these increases. Several segments of the Red River are listed as impaired for turbidity or low oxygen. In addition, while reduced water quality from a constructed outlet may not violate established water quality standards, we are concerned about the cumulative impacts of even minor increases in water quality parameters. It is clear to us that additional water quality stressors resulting from an outlet project will negatively affect the existing impaired conditions.

Mercury issues

The document discusses bioaccumulation of mercury at several points. For example, "Mercury accumulation is of particular concern, as methyl mercury levels in Red River fish are currently high and additional methyl mercury could be released in newly-flooded areas..." (p. 5-59, DEIS Vol. 1) "...there is the potential for a lake overflow to increase the mercury content of edible fish in the Sheyenne River and Red River." (P. 5-72, DEIS Vol. 1)

The EIS does not address the impacts, and it is unclear whether the additional studies that are being conducted will sufficiently address this issue. The rising Devils Lake is likely to produce the same conditions that cause mercury methylation effects in impoundments. Consider the following:

"The most important factor affecting the net rate of methyl mercury production is the amount and type of flooded material. Laboratory and field experiments showed that moss, peat, black spruce, *prairie sod* and *freshwater algae* all stimulated the production of methyl mercury....such a wide variety of organic materials indicate that the effect of flooding on fish mercury levels is a general response and not limited to areas of boreal forest." (Emphasis added) (Brandson,

N.B.: M. Morelli, R.A. Hale, and F.O. Josephson. 1987. A SUMMARY REPORT. Canada-Manitoba Agreement on the study and monitoring of mercury in the Churchill River Diversion.)

“The evidence presented here strongly suggests that the seasonal and geographic variations in (methyl mercury) abundance...are determined primarily by variations in the activities of Hg-transforming microbes, not by variations in the supply of inorganic Hg, and that the principal limiting factor controlling this microbial activity ‘at least during the ice-free times of year’ is the abundance of readily metabolized organic substances and other major nutrients.” (Jackson, T.A. 1986. “Methyl mercury levels in a polluted prairie river-lake system: seasonal and site-specific variations, and the dominant influence of trophic conditions.” (*Can. J. Fish. Aquat. Sci.* 43:1873-1887.) (*Note: This study was done in southern Saskatchewan, not far from the project area.*)

“Mercury concentrations in fish increase considerably after impoundment and flooding in all climatic regions of the world.in boreal areas....in temperate areas (southern Saskatchewan....Illinois....South Carolina....) and in the tropics....In all reservoirs for which pre- and post-impoundment concentrations of mercury in fish have been compared, substantive increases have been demonstrated....Therefore, an increase in mercury concentrations in fish is a consistent and geographically widespread response to the flooding of reservoirs.” (Bodaly, R.A. and T.A. Johnston, 1992. “The mercury problem in hydroelectric reservoirs with predictions of mercury burdens in fish in the proposed Grande Baleine Complex, Quebec.” James Bay Publication Series, North Wind Information Services, Inc. C.p. 38, Succ.place du Parc, Montreal, Quebec. H2w 2M9.)

May 7, 2002

Via Facsimile and U.S. Mail

Colonel Robert L. Ball
Army Corps of Engineer Centre
190 East 5th Street
St. Paul, MN 55101-1638

Facsimile (651) 290-5478

RE: Comments of the Minnesota Pollution Control Agency on the Draft Devils Lake Integrated Planning Report and Environmental Impact Statement.

Dear Colonel Ball:

I am writing to provide comments to you from the Minnesota Pollution Control Agency (MPCA) regarding the draft Devils Lake Integrated Planning Report and Environmental Impact Statement (EIS).

The MPCA is opposed to an alternative that includes construction of an outlet from North Dakota's Devils Lake into Minnesota's Red River Basin because of the resulting negative environmental and economic impacts to Minnesota. The proposed EIS promotes such an alternative.

The MPCA has reviewed the EIS and believes it is inadequate for two main reasons:

1) the EIS does not provide a complete alternatives analysis; and 2) the alternatives presented do not fully investigate or report on the environmental or economic impacts of those alternatives.

1) Lack of a complete alternative analysis.

The EIS focuses on a constructed outlet approach, which results in moving excess water from North Dakota into Minnesota. The EIS also mentions a no action approach, which could result in the natural overflow of Devils Lake. The MPCA believes that there is at least one other alternative that needs to be analyzed. This alternative is the approach Minnesota is using in the Red River Basin to address issues similar to Devils Lake. Failure to adequately present a broad range of alternatives in the EIS will preclude decision-makers from selecting the best alternative to implement.

The approach being used in the Red River Basin is a cooperative effort to reduce flood damages in the basin. A basic premise of this effort is to avoid passing the problem downstream. The approach being used in the Red River Basin is compatible with the hydrological, geological and ecological conditions and processes of the Devils Lake Basin. I believe that this approach, which has the potential to resolve the Devils Lake issue, is an alternative to either the natural overflow or the constructed outlet approach. In fact, the EIS includes comments from the U.S. Fish and Wildlife Service arguing this point (Appendix 2, Fish and Wildlife Coordination Report).

The Red River Basin approach, which is another alternative for the Devils Lake Basin, includes the following activities:

- Reduce drainage from the upper watershed to the lake basin, by eliminating illegal drains, moratorium on new drainage and establishment of alternatives to drainage;
- Restore wetlands and riparian areas to reduce peak flows and store water in the upper basin;
- Establish buffer zones near the lake, its wetlands and downstream water courses to enhance the ability of those resources to accommodate higher flows;
- Relocate businesses, homes, roads and other infrastructure away from the lake basin; and
- Place a moratorium on new building in the lands adjacent to the lake that flood under high water conditions.

2) Full investigation and report on the environmental and economic impacts of the alternatives presented.

The MPCA believes that the EIS presents incomplete information on the environmental and economic impacts of the alternatives analyzed. Failure to fully evaluate and report on the environmental and economic impacts of each alternative will not allow decision-makers to fully understand the environmental and economic impacts of implementing a specific alternative.

For example, the EIS fails to analyze the increased frequency, duration and intensity of water quality exceedances on the Sheyenne River and the Red River of the North resulting from a constructed outlet, and the costs needed to mitigate additional impairments in water quality. This includes impacts from: 1) additional nutrient loading of phosphorus; 2) the interbasin transfer of surface water on the ecological integrity of the Red River Basin; 3) triggering new total maximum daily load requirements; and 4) violation of the water quality objectives established in the Boundary Waters Treaty of 1909. The EIS also fails to evaluate mercury impacts resulting from a constructed outlet.

The enclosed memorandum provides more detailed comments from the MPCA on the inadequacies of the EIS. MPCA has limited its comments to the water quality issues under its jurisdiction. We have consulted with the Minnesota Department of Health (MDH) and the Minnesota Department of Natural Resources (MDNR) in reviewing this EIS and developing our comments. We agreed to comment separately due to time constraints. However, the MPCA concurs with the comments of MDH and MDNR submitted to you by the deadline date of May 7, 2002.

Colonel Robert L. Ball
Page 3
May 7, 2002

Thank you for the extension of time granted to the MPCA for submittal of comments. If you have any questions regarding this letter or the enclosed memorandum, please contact Jeff Lewis, of my staff, at (218) 846-0730.

Sincerely,

Karen A. Studders
Commissioner

KAS:mh

Enclosure

cc: Governor Jesse Ventura, State of Minnesota
Governor Christine Todd Whitman, Administrator, U.S. Environmental Protection Agency
Tom Skinner, Regional Administrator, U.S. Environmental Protection Agency, Region 5
L. David Glatt, Section Chief, North Dakota Environmental Health
Commissioner Allan Garber, Minnesota Department of Natural Resources
Commissioner Jan Malcolm, Minnesota Department of Health
Corey Weierke, Minnesota's Washington, D.C. Office

DEPARTMENT : POLLUTION CONTROL AGENCY

SF-00006-05(4/86)
STATE OF MINNESOTA

Office Memorandum

DATE : May 7, 2002

TO : Karen Studders
Commissioner

FROM : Jeff Lewis *Lf2 for Jeff Lewis*
Manager
Detroit Lakes Regional Office

PHONE : (218) 846-0730

SUBJECT : Devils Lake Integrated Planning Report and Environmental Impact Statement (EIS)
Prepared by the U.S. Army Corps of Engineers

This memorandum provides additional details supporting the Minnesota Pollution Control Agency's (MPCA) position that the above-referenced Environmental Impact Statement (EIS) is inadequate. The MPCA developed its comments in consultation with the Minnesota Department of Health and the Minnesota Department of Natural Resources.

1. Inadequacy of the Alternatives Analysis of the Integrated Planning Report and EIS.

Statements in the EIS imply that its purpose is different than a typical EIS because it "provides an array of alternatives along with their associated risks and consequences so as to facilitate open discussion. This draft report serves as a vehicle for continued public input into the project," states Project Manager David Loss in the report's abstract (unnumbered page). He reiterated this point at the public meeting, stating that the EIS should be considered a guide for the federal government's selection of a plan to reduce "flood damages related to the rising lake levels in the flood-prone areas around Devils Lake and to reduce the potential for a natural overflow event" (P. 1-5, Summary).

While the MPCA agrees that these statements reflect the intent of the EIS process, the language, structure and tone of this EIS is at odds with these statements. The EIS clearly advocates a single solution instead of evaluating an array of possible solutions. This is demonstrated in the summary of the EIS which states (page 1-S-7): "When balancing the project needs and objectives, including cost effectiveness, downstream water quality impacts, and other considerations, the Pelican Lake 300 cubic feet second outlet alternative is the best overall outlet plan."

The EIS also clearly demonstrates that its preferred alternative will not, by itself, reduce flood damages to Devils Lake and surrounding communities. Moreover, the EIS clearly states that the preferred alternative will actually create new problems, especially with water quality. And, in fact, the EIS makes clear that achieving flood damage reduction requires a matrix of approaches,

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of which the constructed outlet is only one approach. Several approaches, including upper basin storage and infrastructure protection, are necessary to reduce flood damages. The reader should be able to review the EIS and understand how much flood damage reduction will be provided by infrastructure protection, how much can be provided by upper basin storage, and why a constructed outlet would make these approaches more effective. An adequate EIS would provide an array of possible solutions and would establish a basis to compare alternatives so that decision-makers could select those that met the goal of reducing flood damages without creating new problems. In an EIS, it is not the job of the U.S. Army Corps of Engineers (ACE) to pick or promote an alternative but to evaluate alternatives so that decision-makers are in the best position to select alternatives. The alternatives analysis in this EIS is inadequate.

The EIS makes a case that a natural overflow event at Devils Lake would have negative effects on downstream water quality, hydrology, channel stability and riparian conditions, and aquatic life, not to mention the economic costs for riparian owners as well as downstream water users. The MPCA believes the EIS demonstrates that the same concerns exist for a constructed outlet. In addition, a constructed outlet would continue to flow for a much longer time than a natural overflow, extending the opportunity for impacts to water quality, hydrology and channel conditions. The EIS is inadequate because it fails to evaluate these two alternatives in an even-handed manner so that the environmental impacts and economic consequences can be compared and contrasted.

The impact of a natural overflow is a central argument of the EIS and cannot be dismissed lightly. The report asks the reader to weigh the alternatives of acting now to construct an outlet versus accepting the risk of a natural overflow event. The EIS predicts that under wet conditions, the natural overflow will occur for approximately five years (Page. A. 159); operation of an outlet under the preferred alternative would require between 10 to 45 years of pumping (p. A-174). It is difficult to understand the EIS's stated preference for choosing the extensive damages of a constructed outlet operating for dozens of years, rather than the uncertain occurrence of a natural overflow event resulting in damages over a five-year period. As the EIS states on Page 4-27: "An important consideration from the Minnesota perspective is that, with an outlet in place and operating, the effects of operations would be certain while prospects for future uncontrolled spill effects would be speculative." Moreover, if a third alternative comprised of upper basin storage, infrastructure protection, and downstream restoration were implemented, the risk of natural overflow would be reduced or may be eliminated. Furthermore, this third alternative may also eliminate the need for a constructed outlet. The EIS is inadequate because it fails to identify and analyze this third alternative.

It is important that each alternative be measured against the remote possibility of a natural overflow event. The probability of a natural overflow event is less than one out of ten, according to the EIS. Weather conditions used to support the occurrence of a natural overflow event are based on the assumption that the weather patterns of 1993-1999 will be repeated three consecutive times. Yet, in the past two years, water levels in Devils Lake have remained stable.

It makes more sense to dispense with the guesswork on the likelihood of the overflow and agree that the rising water level in Devils Lake is a problem for the local community. Then work could be begun to address that problem with a comprehensive approach, as is being done in the Red River Basin in Minnesota.

2. Full investigation and report on the environmental and economic impacts of the alternatives presented.

A. Environmental Impacts

The MPCA believes that the EIS presents incomplete information on the environmental and economic impacts of the alternatives analyzed. Most significant of these is the failure to address the impact on water quality of water released through a constructed outlet.

Impact of the construction and operation of an outlet is considered in terms of numeric water quality standards. The ACE only included water quality information where water quality numeric standards would be exceeded, although the total load of nutrients, sediments, and salts were studied. The EIS project management team made an internal decision not to report water quality information where pollutants were increased, but would not result in exceedances of water quality standards. As a result, the EIS is inadequate because it fails to present all environmental impact information for the alternatives assessed.

All of the water quality information developed or obtained should have been reported in the EIS. Without all of the data, the MPCA, or for that matter any reader or decision-maker, cannot make an adequate determination of the cumulative impacts of the constructed outlet on downstream water quality. Also by focusing only on numeric water quality standards, the EIS fails to address whether an alternative will violate or exceed any narrative standard for water quality. The constructed outlet will result in an additional load of pollutants and materials that will change physical, chemical and biological processes in the waters of the Sheyenne and Red Rivers, which will in turn, affect the diversity of aquatic life. While this loading may not exceed or violate numeric water quality standards for chlorides, nutrients or sediments, water quality will be diminished. The practice of dismissing water quality effects because numeric standards are not violated is inappropriate and does not present an accurate record of environmental impacts from each alternative analyzed. The EIS must review and report on the cumulative effects of the additional loading of chlorides, nutrients and sediments to the Sheyenne and Red Rivers. Additionally, the impacts and associated mitigation needs have not been quantified. Further monitoring is required but is not figured into cost/benefit analysis.

The MPCA identified the following environmental impacts that are not adequately addressed in the EIS:

- Nutrient loading.

"Outlet operations from Pelican Lake would introduce about 40 metric tons (of phosphorus) per year. This is an increase of about 60 to 100 percent over the modeled baseline condition on the upper Sheyenne River. The HEC-5Q model treats phosphorus as a non-conservative substance affected by biological retention and release, sedimentation and benthic flux. The model did not indicate that there would be loss or long-term net retention of phosphorus, but indicated that, from year to year, a load of phosphorus approximately equivalent to that introduced by the outlet would show at all points downstream. Over the 45 years of operation for the wet scenario about 1200 metric tons would pass through." (Pp. A-176-7)

It is incorrect to assume that a new load of phosphorus will simply move through the aquatic system. Research indicates that the ability of a system to cycle phosphorus through it is relative to the amount of phosphorus entering the system. Increasing the influent will reduce the rate of internal cycling, resulting in nutrient enrichment to the system.

Adding phosphorus to the Sheyenne River will also increase the phosphorus load to the Red River. The environmental impact to the Red River from this additional phosphorus load must be evaluated. In recent years, the MPCA and others have expended considerable resources toward reducing phosphorus loading to the Red River. This effort is ongoing and further work is still developing. Manitoba Conservation has published research stating that phosphorus loading to the Red River, as measured at Emerson, Manitoba, increased 22.5 percent from 1978 to 1999. (Geoff Jones and Nicole Armstrong, "Long-Term Trends in Total Nitrogen and Total Phosphorus Concentrations in Manitoba Streams," Manitoba Conservation Report No. 2001-07, December 2001.) **The EIS must address the impact of additional phosphorus loading from a constructed outlet on the Red River of the North and the additional resources that will need to be expended by Minnesota and Canadian governments in order to mitigate this new load. This is essential information for decision-makers to have when deciding which alternative to implement.**

- Ability of the Upper Basin to Store Water.

The EIS prematurely rejected the solution of increasing upper basin storage by restoring wetlands. The EIS acknowledges that the restorable wetlands were underestimated by 50 percent. Further, the study of restorable wetlands covered 68 percent, or slightly more than two-thirds of the basin. Two subwatersheds, Stump Lake and Devils Lake, were excluded from that analysis. Moreover, this solution did not evaluate inclusion of a moratorium on illegal drains and on new drains to the system. This solution should be re-evaluated with consideration to all restorable wetlands, the entire basin, and with the prohibition of new drains and elimination of existing drains that increase flow to the Devils Lake Basin.

- Linking the Missouri River and Red River Basins.

This is a controversial, yet important issue. The authorizing legislation forbid this topic from the EIS, but it has demonstrably been a part of North Dakota's water resources management agenda for many years. Because of the potential adverse impact on the ecological integrity of the Red River Basin, Minnesota opposes interbasin transfers of surface water. **The EIS is inadequate because it fails to evaluate the impact of the constructed outlet alternative on the ecological integrity of the Red River Basin resulting from this interbasin transfer of surface water.**

B. Economic Impacts

The MPCA identified the following costs that were not adequately addressed in the EIS:

- Cost of Total Maximum Daily Load on the Red River of the North.

Section 303d of the Clean Water Act requires states to list impaired waters and to develop Total Maximum Daily Loads (TMDL) for designated reaches. U.S. EPA states that the "average cost of developing the TMDLs for each of the roughly 20,000 impaired water bodies is estimated to be about \$52,000, with a typical range of costs between \$26,000 and over \$500,000." (page iii, Executive Summary, The National Costs of the Total Maximum Daily Load Program, EPA 841-D-01-003, August 2001). The EIS states that the constructed outlet would increase the number of water quality violations, and could result in TMDL's being required because of those violations. **However, the EIS fails to estimate the costs that would result from the increased number of TMDLs.** The cost estimate should not only cover the cost to states to develop each TMDL, but also the cost to municipalities, businesses and others to implement pollutant load reductions in order to restore the impaired water body to its designated uses.

- Cost of required monitoring and mitigation related to the Boundary Waters Treaty of 1909.

Water quality effects have been identified at the Canadian border but not fully analyzed. Monitoring needs to be completed to determine compliance with the Boundary Waters Treaty of 1909. **The EIS documents that the constructed outlet will violate water quality objectives set by the Treaty. However, the EIS fails to identify the monitoring costs needed to fully evaluate the water quality effects in Canada and the costs needed to mitigate these effects.**

- Cost of mercury monitoring and mitigation program.

The EIS, in Appendix C, outlines a mercury-monitoring program, to monitor mercury in surface water, sediment and fish tissue. The report also recommends study of mercury in substrate subject to inundation and a model developed to estimate effects of mercury release from a constructed outlet on aquatic life. This need was raised in scoping by MPCA and others, and should have been explored in the EIS. The cost-benefit analysis should include the cost of the necessary mercury monitoring and mitigation. Monitoring of impacts is not the same as mitigation of impacts. Mercury methylation is a real consequence of natural and/or induced overflow of Devils Lake. **Therefore, the EIS is inadequate because mercury has not been**

Commissioner Karen Studders
Page 6
May 7, 2002

studied and reported on in the document, and the costs associated with mercury monitoring and mitigation are not included.

LT:mh

May 7, 2002

District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Mr. Loss:

Thank you for the opportunity to comment on the draft Integrated Planning Report and Environmental Impact Statement for the Devils Lake, North Dakota, Outlet Study. The Minnesota Department of Health (MDH) acknowledges that the recent rise of Devils Lake water levels has posed, and continues to pose, risk to development and community services in the area, and has created a difficult situation for area residents. The efforts to address these risks need to be effective, efficient, and environmentally sound. We offer the following comments for your consideration.

1. **Purpose and Need of the Proposed Action.** The Corps has identified the purpose and need of the proposed action as: "The purpose of the proposed action is the reduction of flood damages related to the rising lake levels in the flood-prone areas around Devils Lake and to reduce the potential for a natural overflow event." The original purpose set forth in the February 1999 Corps Scoping Document was confined to reduction of flood damage and flood protection costs. Congressional interests were successful in expanding the scope to evaluate possible downstream impacts of a natural overflow. USGS Fact Sheet FS-089-00 published in June 2000 states that the natural condition for Devils Lake is either rising or falling, and the lake should not be expected to remain at any one elevation for a long period of time. Page 2-2 of the EIS agrees with that conclusion. This is substantiated by the fact that as recently as the early 1990's Devils Lake interests supported an inlet structure to increase lake levels. Any flood damage reduction strategies that rely on attempting to artificially control the lake's levels will constantly be at odds with the lake's natural condition and consequently have less potential for success. Further, the draft EIS demonstrates very clearly that the potential for a natural overflow is extremely remote. Minnesota has experienced success with an evacuation and protection model, which acknowledges natural conditions and also avoids passing the problem downstream. It has the added benefit of being a responsible, locally based solution.
2. **Stochastic Model.** The stochastic model cited in the EIS showed a very low probability of a natural overflow event of 9.4%. A large number of traces were generated as a way of dealing with the uncertainty regarding future lake levels. The first 15 years of the model were based on the assumption that the climatic conditions would be similar to those experienced during 1980-99, reflecting the generally wetter conditions Devils Lake has been experiencing since 1980 (EIS p. 3-4). Despite this "wet start" assumption, an outlet would only reduce the chance of an overflow from 9.4 percent to 4.1 percent. Does this reduction amount to a statistically significant change? The model predicted a "dry" future with average peak lake levels of 1448.1 for 35.6% of the time, a "moderate 1" future with average peak lake levels of 1450.2 for 29.9% of the time, and a "moderate 2" future with average peak lake levels of 1454.9 for 25.0% of the time. Thus, more moderate lake levels are far more likely to occur as evidenced by the modeling results (EIS Appendix B, p. B-12). Any analysis of a constructed outlet should examine more closely the downstream impacts resulting from these more moderate lake levels. This analysis is critical because of the greater likelihood of their occurrence and the fact that more moderate lake levels will significantly change the water quality in Devils Lake from that predicted in the "wet scenario," and consequently impacts to downstream water users will potentially be more severe.

3. **Cost Benefit Ratio.** The draft EIS acknowledges that no outlet plan showed a positive cost benefit ratio under standard procedures. An outlet can only be shown to be economically justified when the model assumes the extremely wet period from 1993-1999 is repeated three times. It is very improbable that such unique events will be repeated three times in 21 years. MDH objects to the use of a scenario that relies on repeating the seven wettest years of recorded historical data until the lake spills in order to justify the costs of the project.
4. **Low Risk of Natural Overflow.** Our position is that there is little need to “reduce the potential for a natural overflow event” since there is already a low probability of occurrence. On p.1-S-7 of the draft EIS the Corps states that although there is a low probability of occurrence, the risks associated with a natural overflow, together with the opportunity to reduce the damages around Devils Lake with a reduced rate of rise on the lake, may make the outlet plan an attractive option. This seems to be a circular route to justify an outlet. The only alternative demonstrated to be economically sound using standard procedures was expanded infrastructure protection. In addition, a constructed outlet has only limited value in preventing the lake from rising and expanded infrastructure protection would need to be implemented regardless.
5. **Downstream Water Quality Impacts.** Any of the outlet alternatives would have adverse effects in downstream receiving waters. The adverse effects would include: degraded water quality; increased erosion; increased sedimentation; reduced aquatic habitat value; higher river stages; minimal increased overbank flooding; extended duration of inundation; impeded river access; loss of aquatic resources; loss of riparian habitat; effects on agricultural uses; effects on water treatment facilities; social effects; cultural resource losses; effects on irrigation; and, effects on Tribal resources (EIS P. 1-S-8.). As it is apparent that none of the outlet alternatives can meet the primary goals of flood damage reduction, lowering lake levels, or even prevention of rising lake levels, the construction of an outlet with downstream water quality impacts is a questionable course of action at best. On page 1-S-2 of the draft EIS the Corps states that: “further coordination is needed to determine if outlet alternatives are in compliance with various environmental standards such as the Boundary Waters Treaty of 1909 and the Clean Water Act.” Please explain what the term “further coordination” means and why the important issue of compliance with environmental obligations found in treaty and statute is not fully analyzed in the EIS. MDH also wonders how the above statement can be reconciled to the conclusion reached on p. 1-S-7 that an outlet would result in increases in the frequency and duration of events that exceed water quality criteria on the Red River of the North.
6. **Water Supply Impacts.** Impacts on drinking water treatment facilities have been identified as a major adverse effect of a constructed outlet.

At the current time, Minnesota does not have any municipal surface water intakes on the Red River of the North. However, the March 1999 Barr Report: “Devils Lake, North Dakota Downstream Water Users Study,” acknowledges that the city of East Grand Forks has expressed an interest in using the Red River of the North in the future and has concerns over the future river water quality (pp.3-5). Because of this interest Barr gathered necessary data from East Grand Forks but failed to develop cost estimates for water supply impacts from a constructed outlet. In a letter dated April 18, 2001, MDH requested that effects on the City of East Grand Forks water supply be considered because of the very real possibility that the Red River could become a source for the city’s drinking water. In addition, in previous correspondence dated March 23, 1998, multiple Minnesota state agencies requested that the modeling should assess the impact of a Devils Lake outlet on water treatment systems assuming that future water supply demands require withdrawals from the Red River. The additional cost of treatment that would be required for Minnesota cities to deliver drinkable water for their communities must be assessed. We consider the lack of this information to be a serious deficiency of the draft EIS. Further, Barr concluded that groundwater is not a likely alternate source water for municipal users

because the only usable water is contained in surficial aquifers, is of poor quality, and has insufficient yields. We concur with that conclusion and believe it is irresponsible to exclude a major city in the region from the consideration of impacts.

An outlet would result in increased water treatment costs. Barr concludes cost increases will result from increased softening costs and increased capital and operations costs if treatment or an alternative water supply is required to restore the treatment facility finished water quality to without-outlet conditions (p.1-1). Barr is careful to qualify their conclusions by acknowledging that changing the location or operating regime for the pump station would likely result in a change in downstream river water quality (p.2-4). The lack of an operating plan is significant at this juncture because it does not allow full and adequate analysis of downstream water quality impacts and impacts on water supply. The Barr report took a two-phased approach to developing mitigation strategies for water treatment facilities. Phase I estimated operating costs to reduce hardness. Phase II estimated costs of additional hardness removal and additional treatment needed to bring the with-outlet water to the without-outlet finished water quality. This analysis was inadequate in the following respects. The water quality model used tracked only conservative substances such as TDS, sulfate, chloride and hardness. The model was not used to track non-conservative substances such as nitrogen, phosphorus, total organic carbon, dissolved oxygen, biochemical oxygen demand, and pH. However, these constituents are also of interest for water treatment investigations but were not studied by Barr (p.3-7). The impacts of these substances on water supply should also be determined to truly understand how a constructed outlet would impact water supply. None of the constituents tracked by the model are currently regulated under the U.S. Primary Drinking Water Regulations. However, sulfate, TDS, and chloride do have applicable secondary standards. In addition, sulfate has been placed on the May 2000 Contaminant Candidate List for potential regulation. Because of the uncertainties with respect to sulfate regulation, Barr chose not to estimate treatment costs to reduce sulfate. We question this approach as not protective of public health and request that future analyses consider any additional treatment costs for sulfate removal. The Phase I approach that assumed only existing treatment processes would be used only removed some of the TDS and had no significant effect on sulfate concentrations. As a result, secondary standards will likely be exceeded for sulfate and TDS. It is distinctly questionable whether consumers would tolerate these exceedances. A more realistic approach would follow the methodology used in Phase II where all constituents were removed to pre-outlet operation concentrations or alternative water sources were identified. Consequently, our position is that the cost estimates derived from Phase II model reflect more accurately the mitigation costs of an outlet and should be used instead of Phase I results in future analysis. The additional cost of treatment that would be required for Minnesota cities to deliver drinkable water for their communities must be assessed.

Finally, an alternative water supply for Grand Forks was assumed to consist solely of increased withdrawals from the Red Lake River. However, no analysis was completed to ascertain if the Red Lake River, under low flow conditions, would be negatively impacted or capable of meeting the increased demand. This analysis should be completed.

7. **Alternative Analysis.** The alternative analysis was not complete. The EIS states that all of the impacts and associated mitigation needs have not been quantified, but the Corps considers the information adequate to address the decision to be made at this time, which is identification of alternative(s) for implementation (p. 1-S-12). However, the Congressional authorization specifically requires an outlet to be technically sound, economically justified, environmentally acceptable, and in compliance with NEPA. In addition, the economic justification must be fully described, including the analysis of the benefits and costs, in the project plan documents. Increased water treatment costs are potentially very significant for downstream users and should be included in the cost analysis.

8. **Source Water Protection.** Source water protection is an accepted principle of drinking water protection. The construction of an outlet would adversely affect the ability to use the Red River of the North as a drinking water source and is not beneficial to downstream interests. This source is of regional and statewide significance and the extremely limited benefits of a constructed outlet do not outweigh the risks associated with it. The strategies of expanded infrastructure and upper basin storage offer the most effective, efficient, and environmentally sound alternatives.

Thank you for the opportunity to provide comments on the Environmental Impact Statement for the Devils Lake Outlet Study. As you can see, MDH has some serious concerns regarding the conclusions of the study, concerns which are shared by several other Minnesota state agencies. We encourage you to address these concerns before making a final decision on any action to be taken by the Corps. If you have any questions about the issues raised in this letter, please contact Beth Kluthe of our Bemidji Office at 218-755-4173.

Sincerely,

Patricia A. Bloomgren, Director
Environmental Health Division
P.O. Box 64975
St. Paul, MN 55164-0975

cc: Ron Harnack, Minnesota Board of Water and Soil Resources
Kent Lokkesmoe, Minnesota Department of Natural Resources
Rod Massey, Minnesota Pollution Control Agency
Senator Mark Dayton
Senator Paul Wellstone
Representative Gil Gutknecht
Representative Mark R. Kennedy
Representative Jim Ramstad
Representative Betty McCollum
Representative Martin Olav Sabo
Representative William Luther
Representative Collin Peterson
Representative James Oberstar
Senator Byron Dorgan
Senator Kent Conrad
Representative Earl Pomeroy
Susan A. Thompson, Canadian Consul General, Minneapolis
Gerald Galloway, International Joint Commission, Washington, D.C.

May 7, 2002

Colonel Robert L. Ball
District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Colonel Ball:

On behalf of the Missouri Department of Natural Resources, I submit the following comments on the U. S. Army Corps of Engineers' Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement. The brief comment period has not allowed us to conduct a complete review of the technical information provided in the document, however, some major issues are addressed in this letter.

1. Reliance on a "wet scenario"

The Corps' reliance on a "wet scenario" is not defensible. The Corps has taken a recent seven-year period from the 1990's with abnormally high precipitation and extended it significantly into the future. No such event is found anywhere in the official period of record. The failure to use data from two recent years (2000 and 2001) during which there was not a dramatic lake rise makes the basis for analysis even more questionable.

Without the wet scenario, the Benefit Cost Ratio for the outlet is less than one. The Corps cites "unique circumstances" as a justification for compounding this scenario with additional caveats about potential impacts and futures. Reasonable expectations of future conditions appear to have been abandoned for a scenario that appears to have been created with the sole purpose of justifying an outlet.

This is no different than when the Rock Island District Corps of Engineers created, out of thin air, an "elasticity factor" for the Upper Mississippi River Navigation Study. In this instance, the Rock Island District used such an elasticity factor to estimate the future demand for barge transportation on the Upper Mississippi River. The Corps should have learned its lesson that it cannot simply invent an unsupported future scenario in order to justify proceeding to project construction.

The lake level (1447.14 ft. msl on May 6, 2002) does not, in fact, appear to have a substantial trend over the more than two years since the period used to define the wet scenario. This is a decrease of almost a foot since the recent high in August 2001 and occurs near the beginning of the period of peak evaporative loss. To assume the historically greatest increase in lake level will extend well beyond its past measured extent strains credulity and does not constitute an acceptable process for evaluation of proposed Corps projects.

2. Environmental impacts

The DEIS understates environmental impacts along the Sheyenne River and beyond. The DEIS does not adequately discuss the impacts of higher river levels on groundwater levels along the Sheyenne River. Higher groundwater levels during the seven months during which the outlet is expected to be operating will increase the potential and severity of flooding along the Sheyenne River for a rainfall event of a given intensity and duration by reducing infiltration.

Because the benefit cost ratio is greater than one only for the wet scenario, it seems odd that the Corps has not analyzed the effects of the outlet under those conditions. By limiting the analysis to moderate scenarios and then extrapolating the results to the wet scenario, the Corps does not provide internally consistent information for review. The wet scenario would require flow much closer to the 300 cfs design flow for more extensive parts of the year, compounding the effects determined in the more moderate scenario. By failing to do the analyses for the preferred outlet location, the Corps further obscures the environmental issues.

The alteration of habitats along the Sheyenne River is also underestimated. The Corps did not include impacts on wetlands and other critical habitats from increased sedimentation and the decrease in water quality through increases in Total Dissolved Solids. Higher water tables in the riparian corridor during the seven months of the year that the outlet is operating have the potential to significantly alter the composition and health of riparian communities. Such changes are highly likely to be compounded by increased erosion of the shoreline caused by a loss of vegetation and increased discharge along the Sheyenne River.

The Corps did not fully examine the effects of consistently higher discharge into the Sheyenne River and Lake Ashtabula on those systems. Alteration of the chemistry of the soils along the river should be expected with an increased flow of water higher in sulfates and TDS. Increases in soil salinity and the attendant changes in chemical and physical properties of those soils need to be investigated.

The comparison of water quality in and flowing from Devils Lake resulting from an outlet as opposed to that produced by evaporation is fallacious. The impact of the outlet on water quality in Devils Lake would be to compound the water quality impacts of evaporation. By removing the highest quality water, the outlet reduces overall water quality in the lake and thus leaves lower quality water to be affected by evaporation. Water quality impacts are greatest at low lake levels and the operation of an outlet will likely have negative impacts on water quality during the next period of lower lake levels. This will occur because the lake levels will be lower and because the salts will be concentrated in the waters remaining in the lake after the outlet is operated. By ignoring water quality during a reasonably expected drier climatic cycle, the Corps fails to fully reflect the water quality impacts of an outlet.

The use of an outlet during a time of increased precipitation and inflow into Devils Lake will also increase the perceived need for an inlet during the next naturally occurring drier cycle. By removing water from the lake, the outlet will hasten the fall of lake levels and increase the deleterious effects of low water levels. The Corps should include an analysis of long-term harm to water quality and lake habitat resulting from use of an outlet followed by the inevitable drier period. Certainly, the likelihood of a drier period characterized by falling lake levels is far greater than the likelihood of the wet scenario that plays such a critical role in the DEIS. The

state of Missouri repeats its long and deeply held objection to diversions of water from the Missouri River. The operation of a Devils Lake outlet will increase the demand for such a diversion in the future.

Finally, the discussion of the potential for the introduction of exotic species in the Sheyenne River and downstream is wholly inadequate. The conclusion that “All of the biota in the Devils Lake basin are either known or considered likely to be present in the Red River basin.” (p. 5-27) is based on incomplete investigation and seriously underestimates the uncertainty about potential biota transfer. If the Corps is convinced that it must include the uncertainty in climate prediction in its analysis, the least it can do is to include a similar analysis of the threats of exotic species transfer.

As an example of the uncertainties inherent in this discussion, the state of Missouri has now identified zebra mussels in its waters. It is reasonable to assume that this species will continue to work its way up the Missouri River and pose a greater threat to the Missouri River upstream within the next two decades. Because of the movement of boats between the Missouri River and Devils Lake basins, such a threat should be considered in the DEIS.

3. Natural Outlet

The Corps uses the threat of a natural overflow of Devils Lake into the Sheyenne River as a justification for creating an artificial outlet. However, the earliest expected date for a natural overflow is 2015 and occurs only in the most dire (and least plausible) of scenarios, namely the wet scenario. This natural flood would occur only if conditions the have been observed for a recent seven year period continue for an extended period of years and then a higher than normal period is extended until 2050. Data for the two most recent years do not support this high rate of lake level increase.

4. Effectiveness of an outlet

The Corps has failed to examine a critical limit on the effectiveness of the outlet. If, by some quirk of fate, future conditions approximate the wet scenario, the usefulness of the outlet would be significantly limited by high flows in the Sheyenne River caused by the same precipitation events that cause the levels in Devil Lake to rise. (Unless, of course, the wet scenario affects only those areas within the Devils Lake basin.) The effectiveness of an outlet turns out to be inversely proportional to the needs for an outlet unless one accepts flooding on the Sheyenne River to at least Lake Ashtabula. The affects will likely extend much further downstream into the Red River of the North because of the continuous nature of the increased flows introduced into the Sheyenne river.

5. Alternatives

The Corps has not fully assessed alternatives to an outlet. The continued operation of tile outlets within the basin increases storm run-off into the Lake rather than encouraging enhanced infiltration of water. The DEIS ignores the draining of wetlands in the basin and the value of reversing this to restore habitat within the basin and reduce run-off to Devils Lake. The DEIS does not include a plan for better stormwater management within the basin, particularly some of the towns most affected by variations in Devils Lake water levels.

The proposed North Dakota “temporary” outlet should be included in the consideration of the need for and impact of the Corps actions. The authorization and appropriation of \$15,000,000 by the state of North Dakota and other statements and actions require the Corps to consider this outlet a reasonably likely event. The Corps must consider both the impacts of the temporary outlet on lake levels and on the cumulative impacts of two outlets on the Sheyenne River and Red River of the North. Furthermore, the benefit cost ratio of the Corps’ outlet would be lowered appreciably by the state outlet, particularly in decreasing the expected lake level under any scenario.

A reasonable person would conclude that the likelihood that the state will build an outlet increases with increasing lake level. Thus, the very arguments made to justify that the Corp build an outlet also argue that the Corp include the “temporary” outlet in its consideration of likely future scenarios.

6. Infrastructure Protection Measures

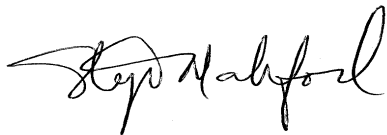
The only proposed action that is clearly justified by the DEIS are the infrastructure protection measures. Whether used alone or in combination with other non-outlet actions, these measures should be used as needed on a gradually applied basis to reduce the impacts of higher lake levels should they occur. Infrastructure protection measures have the advantage of being applied as needed providing a gradational approach that does not waste resources.

In summary, the level of Devils Lake has fluctuated throughout its history. Reasonable views suggest that increased infrastructure protection measure may need to be applied to reduce the economic impacts of future fluctuations. However, the reasonably foreseeable futures do not justify an outlet. **Only under a scenario that cannot be justified does the outlet show a Benefit Cost Ratio of unity.** The DEIS suggests that extremely careful analyses are necessary before proceeding with an outlet given the significant ecological and environmental impacts that are likely to result from the operation of an outlet from Devils Lake to the Sheyenne River. Clearly, the Corps should not move forward with the proposal for a Devils Lake outlet: it is neither justified by need nor defensible in its downstream impacts.

Thank you for the opportunity to comment on this report.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES



Stephen Mahfood
Director

cc: James Laurence Connaughton, Chair, Council on Environmental Quality
Brigadier General Edwin J. Arnold, Jr., Commander, U.S. Army Corps of Engineers,
Mississippi Valley Division
Thomas V. Skinner, Regional Administrator, EPA Region V

Robert E. Roberts, Regional Administrator, EPA Region VIII
James B. Gulliford, Regional Administrator EPA Region VII
Bill Hartwig, Regional Director, U.S. Fish & Wildlife Service,
Region III-Great Lakes-Big Rivers Region
Dr. Ralph O. Morgenweck, Regional Director, U.S. Fish & Wildlife Service,
Region VI-Mountain-Prairie Region

May 6, 2002

Colonel Robert L. Ball
District Engineer
St. Paul District
U.S. Army Corps of Engineers
190 Fifth Street East
St. Paul, MN 55101-1638

Dear Colonel Ball:

I am writing to request that the enclosed comments of the National Wildlife Federation be included in the official record of public comments on the U.S. Army Corps of Engineers' February 2002 *Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement*. We very much appreciate the opportunity to provide these comments, and would further request that you continue to include the National Wildlife Federation on the Corps' mailing list for further information with regard to this proceeding. If you have further questions I may be reached at 202-797-6697. Thank you very much.

Sincerely,

David R. Conrad
Water Resources Specialist

attachment

COMMENTS OF
THE NATIONAL WILDLIFE FEDERATION
ON
THE U. S. ARMY CORPS OF ENGINEERS'
FEBRUARY 2002
DRAFT DEVILS LAKE, NORTH DAKOTA,
INTEGRATED PLANNING REPORT AND
ENVIRONMENTAL IMPACT STATEMENT

Prepared by

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May 6, 2002

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Introduction

Devils Lake in northeastern North Dakota is located in a 3,814 square-mile closed sub-basin of the Red River of the North Basin, which is part of the Hudson Bay Drainage Basin. The Sheyenne River passes eastward near the southern boundary of the basin before looping 400 miles south, east and then north again to join the Red River of the North at Fargo, North Dakota. The Red River of the North then flows north into Canada where it empties into Lake Winnipeg at Winnipeg, Manitoba.

The geologic record shows that, since Devils Lake was formed 10,000 years ago by the Wisconsin Glacier, its level has fluctuated widely over a range of some 65 feet, from dry at 1394 feet above mean sea level (msl) to overflowing to the Sheyenne River at 1459 feet. At elevation 1446.6 feet, Devils Lake overflows to the east through the Jerusalem Spillway to West Stump Lake and East Stump Lake before the combined lakes then rise to overflow from West Stump Lake to the Sheyenne River through the Tolna Coulee. At its overflow elevation of 1459 feet, Devils Lake has a surface area of approximately 300,000 acres.

The lake last was at its current elevation of 1447 feet at the time white settlers arrived in the area in the early 1800s. The lake supported a thriving commercial and sport northern pike fishery and a small side-wheel steamer, the Minnie H, operated between the town of Devils Lake and Churchs Ferry at the northwestern end of the lake. The ferry docked near a large rock that remains near current downtown Devils Lake. The lake had declined to elevation 1438 feet by the time its level first was officially recorded in 1867, and by 1889 the northern pike fishery disappeared when the lake dropped to 1424 feet. The lake continued to decline to its modern day low of 1401 feet in 1940, after which it began an erratic rise to elevation 1423 feet by 1992. However, by 1975 Devils Lake had risen to 1425 feet, and developments which had been encroaching on the bed of the lake as it had receded already were being threatened by the rising water. By 1983, the State was petitioning the U. S. Army Corps (Corps) to construct an outlet from Devils Lake to the Sheyenne River.

The severe drought of 1988 to 1992 was followed by seven years of unusually high levels of precipitation that resulted in the lake rising from 1423 feet in 1992 to 1448 feet in 2001. The lake currently is at 1447 feet and is expected to drop another two feet this year. However, the dramatic rise of the lake starting in 1993 generated renewed pressure for the construction of an outlet to the Sheyenne River, and in 1996 the Corps released an "Emergency Outlet Plan, Devils Lake, North Dakota" that examined two outlet routes from West Bay of Devils Lake to the Sheyenne River (U. S. Army Corps of Engineers, 1996), and the Emergency Supplemental Appropriations Act of 1997 (P. L. 105-18) appropriated \$5,000,000 and directed the Corps to use the funds to:

“...initiate and complete preconstruction engineering and design and the associated Environmental Impact Statement for an emergency outlet from Devils Lake, North Dakota, to the Sheyenne River.” (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001)

The Corps received an additional \$6 million for preconstruction engineering and design of the outlet and the associated environmental impact statement in Fiscal Year 2000 (\$2 million) and

2001 (\$4 million) supplemental appropriations (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001).

A notice of availability of the February 2002 *Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement* (DEIS) was published in the March 8, 2002, *Federal Register*. The following comments are submitted in response to that announcement for inclusion in the official record of public comments on the *Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement*.

Flawed Scoping Process

In their March 1998 joint “Devils Lake Emergency Outlet Newsletter”, Issue #1, the Corps and the North Dakota State Water Commission (NDSWC) announced a series of “Public Scoping Meetings” where members of the public would have opportunities to (1) learn about scoping issues which already had been identified by local, State and Federal regulatory agencies and public officials, (2) identify issues which they felt were important, (3) help to prioritize the scoping issues that had been identified, and (4) submit comments on the proposed outlet from Devils Lake to the Sheyenne River (U. S. Army Corps of Engineers and North Dakota State Water Commission, 1998). However, by already having obtained lists of scoping issues from local, State and Federal officials before the public scoping process was announced and conducted, and by already having proposed a variety of outlet alternatives in six reports dating back over a period of 18 years before the scoping process was initiated, the Corps violated the guidelines for scoping of environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) (Pearson, 1998). In addition, the scoping process utilized by the Corps in 1998 was designed to discourage and frustrate, rather than encourage and facilitate, public participation and involvement (Pearson, 1998).

In an attempt to bestow economic feasibility on the proposed outlet from Devils Lake and under pressure from the North Dakota congressional delegation, the purpose of an outlet was expanded in 2001 from reducing the damages from flooding at Devils Lake to include reducing the already low potential for a natural overflow to the Sheyenne River (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001).¹ Therefore, the Corps and the NDWSC announced in their March 2001 “Devils Lake Study Newsletter” that “new directions” had been set for the study and that a series of “supplemental public scoping meetings” would be held to (1) update the public on the current status of the study, (2) seek comments regarding the alternatives that the Corps would be carrying into the next phase of the study, and (3) “identify any new issues associated with those alternatives.” However, because, the public was deprived of

¹ Wiche et al. (2000) had estimated the year before that the approximately 2 percent chance of the lake overflowing without the proposed 300 cubic feet per second (cfs) outlet would be reduced to less than 1 percent with the outlet. Examination of the data presented shows that, while there was a 1.82 percent chance that the lake would reach the overflow elevation of 1459 feet mean sea level (msl) without the outlet, this consisted of a 1.32 percent chance that the lake would peak between 1459.0 and 1460.8 feet where peak flows would not be substantially greater than from a 300 cfs outlet, and only a 0.5 percent chance that it would exceed 1460.8 feet where the peak flows would be substantially greater than from the outlet. The outlet would reduce the 1.32 percent chance of the lake peaking between 1459.0 and 1460.8 feet by 0.98 percent, and it would reduce the peak discharge if the lake peaked above 1460.8 feet from 2,100 cfs to 1,100 cfs, but it would not significantly reduce the 0.5 percent chance of the lake exceeding 1460.8 feet.

meaningful opportunities for input on the issues and alternatives that had been identified by local, State and Federal government officials and presented in the initial 1998 scoping meetings, the restriction in these supplemental scoping meetings three years later to comments on “new issues regarding alternatives that the Corps would be carrying forward” (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001) simply perpetuated the systematic denial of meaningful participation by the public in the scoping process.

As one example of failure of the Corps’ scoping process to incorporate public comments in a meaningful and substantive way, numerous comments were submitted by the public raising the issue of the contribution of wetland drainage in the Devils Lake Basin to the recent rise in the lake (See, e.g., Pearson, 2001), and the Corps even acknowledges in its Environmental Justice Analysis that:

“Findings from this study revealed a noticeable lack of definitive information available from agency sources on a number of issues, such as... impacts to Devils Lake flooding of upper basin drainage.” (DEIS Appendix C, p. C-102)

However, the DEIS does not include upper basin drainage among the areas of controversy or unresolved issues identified during the EIS process (DEIS p. 1-S-9-13). Similarly, although it includes such things as “rocketing and weather patterns” among issues to be summarized or not addressed, the DEIS makes no mention at all of upper basin drainage as being among the “issues identified during the scoping process” (DEIS Appendix C, pp. C-133-136).

This failure of the Corps’ public scoping process is confirmed by its own Environmental Justice Analysis, which reported that:

“Data from this study indicate that a majority of respondents, from all groups, feel that their views either have not been heard, or have been heard, but not acted on. These findings call into question the effectiveness of the current public involvement process.” (DEIS Appendix C, p. C-104).

and:

“Findings from this study indicate that many respondents felt that the scoping process did not allow for or welcome input from the public.” (DEIS Appendix C, p. C-104)

This systematic exclusion of the public from meaningful participation in the NEPA process for the proposed Devils Lake outlet is further compounded by the abbreviated 60-day comment period for the DEIS and its appendices imposed by the Corps, which, after spending five years and \$11,000,000 preparing these complex and confusing three-inch documents (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001) while the lake was rising, now attempts to justify a patently inadequate public comment period under the transparent guise of “the urgency to make decisions about alternatives and construction” at a time when the lake level is expected to remain stable or decline (Associated Press, 2001a).

If for no other reason, this pervasive exclusion of the public from meaningful participation in the EIS process renders the DEIS inadequate in meeting the Corps' statutory responsibilities under NEPA. Consequently, the only avenue available to the Corps at this point for achieving compliance with the public participation and disclosure requirements of NEPA is to withdraw the DEIS and implement a proper EIS process designed to comply in good faith with both the spirit and the letter of the statute.

Inappropriate Tiering of Environmental Impact Analysis

The DEIS states that:

“The primary purposes of this Integrated Report, in accordance with the authorizing legislation, are 1) to implement ‘tiering’ as provided in Council on Environmental Quality (CEQ) Regulation 15.28(b) and 2) to evaluate an outlet plan (proposed action being evaluated). Tiering procedures allow for supplemental EIS documentation.” (DEIS p. 1-S-1)

However, the Corps' and NDSWC's March 1998 “Devils Lake Emergency Outlet Newsletter” discussing the 1997 Emergency Supplemental Appropriations Act (Public Law 105-18) and the 1998 Energy and Water Development Appropriations Act (Public Law 105-62) under which preparation of the EIS was authorized makes no mention of “tiering” of the EIS being authorized and states only that the project must be “in compliance with the National Environmental Policy Act” (U. S. Army Corps of Engineers and North Dakota State Water Commission, 1998). Similarly, their March 2001 “Devils Lake Study Newsletter” discussing “new directions” for the study states only that:

“The Corps will use its authority and funding to continue collecting data and evaluating alternatives to address the flooding problems at Devils Lake. This will include conducting the necessary environmental impact evaluations required by NEPA and the Boundary Waters Treaty of 1909.” (U. S. Army Corps of Engineers and North Dakota State Water Commission, 2001)

Nevertheless, the “tiering” employed by the Corps in the DEIS still is not in compliance with Council on Environmental Quality Regulation 15.28(b). Under CEQ Regulation 15.28 Tiering:

“‘Tiering’ refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements is:

- (a) From a program, plan or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.
- (b) From an environmental impact statement on a specific action at an early

stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.”

Because the proposed outlet from Devils Lake clearly is not a part of a program, plan or policy of greater scope but deals with a project at a specific site, the Corps makes no claim that tiering of the DEIS is provided under Regulation 15.28(a), but instead cites section 15.28(b) as its authority.

It is stated in DEIS Appendix C that:

“The final Integrated Report/EIS is scheduled for July 2002. The Record of Decision is to be signed by September 2002. Items to be completed include coordination with Canada and determination of compliance with the Boundary Waters Treaty of 1909.” (DEIS Appendix C, p. C-136)

However, with the final EIS to be completed in two months and the record of decision to be signed in four months, it is clear that the DEIS is not an EIS on a specific action at an early stage and that the issues of its environmental impacts are ripe for consideration, so tiering of the DEIS is not appropriate under section 15.28(b), either.

The DEIS states that:

“Additional data acquisition and monitoring will be required to further define and evaluate the operational impacts of an outlet. Based on the results of these evaluations, supplemental National Environmental Policy Act (NEPA) documentation will be prepared as required.” (DEIS p. 1-S-2)

Of course, it is not the impacts of construction, but the impacts of the operation of an outlet that are the most significant and the most important to compliance with NEPA and to the decision of whether or not the outlet should be built. It is precisely to assure that full information on the environmental impacts of proposed Federal actions is available to the public, to the Congress and to Federal agency officials *before* decisions are made that Section 102(2)(C) of the National Environmental Policy Act requires that all agencies of the Federal Government shall—

“(C) include in every recommendation or report on proposals for legislation or other major Federal Actions significantly affecting the quality of the human environment, a *detailed* [emphasis added] statement by the responsible official on—

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,

- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources should it be implemented."

It is important to note that it is not just mitigation of the environmental impacts of the construction of the outlet that the Corps proposes to address in supplemental NEPA documents under CEQ Regulation 1508.2(b), but also the impacts of the operation of the outlet itself (DEIS pp. 5-92-94). Thus, rather than employing "tiering" as provided under the regulation, the Corps is instead using "tiering" as a ploy for segmenting the analysis of the environmental impacts of the proposed action itself, in clear violation of both CEQ Regulation 1508.2(b) and NEPA.

Until an operation plan is developed for the proposed outlet and the impacts of the operation of the outlet are described in detail, the Corps will be unable to make a decision regarding the construction of the outlet that is in compliance with NEPA. However, the Corps proposes instead to postpone the collection of data on the impacts of the operation of the outlet while it proceeds with completion of the Final EIS in two months and a formal decision on construction of the outlet two months later with no provision for information on the impacts of the operation of the outlet being made available beforehand to the public and other agencies for review and comment in supplemental NEPA documents. Thus, any supplemental NEPA documents dealing with the most significant impacts of the outlet will not become available until after the decision has been made to build the outlet, when it is too late to avoid those impacts or select less damaging alternatives. The Corps' NEPA process for the proposed outlet, therefore, is deliberately crafted to circumvent the fundamental purpose of NEPA.

Failure to Consider Cumulative Impacts

Red River Valley Water Supply Project

The Dakota Water Resources Act of 2000 authorizes a Red River Valley Water Supply Project, one alternative of which to be considered is the delivery of Missouri River water to the Sheyenne River utilizing the U. S. Bureau of Reclamation's Garrison Diversion Unit. The DEIS acknowledges that utilizing the Garrison Diversion Unit to deliver Missouri River water for a Red River Valley water supply project is a reasonably foreseeable action (DEIS p. 5-92), but, despite the fact that the projects would deliver water to the Sheyenne River from different sources, it does not discuss how operation of the proposed Devils Lake outlet might alter the operation or impacts of the Red River Valley Water Supply Project, or how operation of the Red River Valley Water Supply Project might alter the operation or impacts of the proposed outlet. With absolutely no data or analysis, the DEIS summarily dismisses discussion of the cumulative impacts of the two projects with the statement that they "do not result in any additional impacts above those described in this Draft Report/EIS" (DEIS p. 5-92).

Inlet to Deliver Missouri River Water to Devils Lake

The DEIS recognizes that:

“The purpose of an inlet from the Missouri River would be to help stabilize the lake during drier climatic conditions. Regionally, there is great interest in stabilizing the lake to try to maintain the recreational and economic value of the lake. Other States, Minnesota and Missouri, Canada, and some agencies are concerned about water quality, water quantity, and biota transfer issues associated with an inlet.

Many believe that an outlet is the first step toward an inlet and oppose the outlet for that reason or feel that the report should include a discussion of the effects of an inlet.”
(DEIS p. 1-S-11)

In fact, on August 1, 1997, North Dakota Governor Edward T. Schafer and the majority leaders of the North Dakota House and Senate sent letters to U. S. Senate Majority Leader Trent Lott and U. S. House Speaker Newt Gingrich stating, in part:

“There are no immediate plans to build an inlet to bring Missouri River water into Devils Lake. The conditions do not require it. Five years ago Devils Lake was a shrinking body of water in danger of losing its multimillion dollar fishery. That situation may occur again. Stabilization of Devils Lake is essential for the long-term economic health for the region and our state.

...

We ask that you consider alternative language that provides funding for an emergency outlet while not shutting the door permanently on an inlet.”

On September 26, 1997, the Governor and the North Dakota Senate and House majority leaders then sent letters to the North Dakota congressional delegation stating, in part:

“A ban on the inlet is an extremely high price to pay for the outlet language. An inlet is important to ensure the long-term economic stability of the Devils Lake region, and is a significant component of the state’s water-development plan. Strong support still exists for an inlet in the region.

...

Everything possible must be done to keep the inlet viable in Congress as a long-term option. We ask that this letter be included as part of a legislative history that should emphasize the state’s interest in revisiting an inlet when the circumstances dictate.”

That same day, North Dakota Senator Byron Dorgan was quoted in *The Forum* (Fargo, North Dakota) as stating that he would bring back the inlet debate in future sessions of the Congress, but for now, the outlet is what is needed (Condon, 1997).

Although the construction of an inlet to deliver Missouri River water to Devils Lake could have profound consequences for the operation and impacts of the proposed outlet, particularly by

escalating the risk of transfer of foreign biota to the Hudson Bay Basin, the DEIS arbitrarily dismisses consideration of the cumulative impacts of an inlet with the statement that:

“Public Law 105-62 prohibits the Corps from using any funds to study any inlet involving the transfer of water from the Missouri Basin. Therefore, an inlet is not part of the analysis.” (DEIS p. 1-S-1)

However, the Corps misinterprets the language of the 1997 Energy and Water Development Appropriations Act (P. L. 105-62). The Act states:

“Provided further, That no funds made available under this Act or any other Act for any fiscal year may be used by the Secretary *to carry out the portion of the feasibility study of the Devils Lake Basin, North Dakota, authorized under the Energy and Water Development Appropriations Act of 1993 (Public Law 102-377), that addresses the needs of the area for stabilized lake levels through inlet controls* [emphasis added] or carry out any activity that would permit the transfer of water from the Missouri River Basin into Devils Lake.”

Thus, Public Law 105-62 prohibits the Corps only from carrying out a *feasibility* study for an inlet to Devils Lake, and it does not prohibit the Corps from addressing the *cumulative environmental impacts* of an inlet in association with an outlet from Devils Lake that is required under NEPA.

North Dakota’s 300 cfs “Temporary” Emergency Outlet

The DEIS acknowledges that a temporary outlet from Devils Lake to the Sheyenne River constructed by the State of North Dakota along Peterson Coulee is a reasonably foreseeable action (DEIS p. 5-92). However, despite the facts that (1) the North Dakota Legislative Assembly has authorized, and appropriated \$15,000,000 for, construction of the temporary outlet, (2) former State Engineer David Sprynczynatyk stated at a public meeting in Valley City, North Dakota, on August 23, 2000, that the State’s 300 cfs temporary outlet will be operated indefinitely if the Corps does not build a permanent outlet, (3) the NDSWC has requested engineering design proposals and has retained the firm of Bartlett, West and Boyle to design the outlet, (4) the NDSWC’s “Request for Proposal” for the temporary outlet states that the outlet could operate for 10 to 15 years if the current wet cycle continues, and (5) the Governor and the NDSWC continue to reiterate their decision to construct the outlet, the Corps declines to include the temporary outlet in the discussion of without project future conditions (DEIS p. 1-S-10) and again dismisses consideration of its cumulative effects in conjunction with the proposed Pelican Lake 300 cubic feet per second (cfs) outlet (DEIS p. 5-92).

Clearly, the construction and operation by the State of a 300 cfs West Bay outlet would have profound impacts on the justification for and feasibility of the Corps’ proposed Pelican Lake 300 cfs outlet, as well as on the cumulative impacts to the Sheyenne River if the Corps’s proposed outlet were to be built. However, the Corps summarily dismisses consideration of the State’s proposed 300 cfs West Bay outlet with the statement that:

“The design and detailed operation plan for a temporary outlet have not been completed at this time, and there is a high probability for delays or suspension of the plan due to possible litigation and permitting issues. Therefore, the construction and operation of a temporary outlet is not considered to be a reasonably foreseeable action at this time, and the Corps is not including this outlet in the future without project conditions. If the State actually begins construction, a decision would have to be made on whether the future without project conditions should be reevaluated, which would result in the extension of the schedule to complete project design and the preparation of a revised NEPA document.” (DEIS p. 1-S-10)

Of course, a detailed operation plan has not been completed for the Corps’ proposed Pelican Lake 300 cfs outlet, either (DEIS p. 6-16), yet the Corps is proceeding on the premise that it is a reasonably foreseeable action subject to the requirements of NEPA. Meanwhile, the State also has indicated that it intends to build and operate its 300 cfs temporary outlet without completing a detailed operation plan (Associated Press, 2001b), but the Corps claims that exempts the State’s project from consideration of cumulative impacts under NEPA

The DEIS purports to conduct a sensitivity analysis “[t]o address the uncertainty of the implementation of a temporary outlet” (DEIS p. 1-S-10), and it states that:

“The analysis includes a discussion of the potential effect of the temporary outlet on lake levels, and how it would affect the economic feasibility of the Pelican Lake outlet alternative.” (DEIS p. 1-S-10)

However, despite the facts that (1) the NDSWC’s “Request for Proposal” for the temporary outlet calls for a capacity of “at least 300 cfs” and indicates that it could be operated for 10 to 15 years until the current wet cycle ends (North Dakota State Water Commission, 2001), and (2) the DEIS acknowledges that the ultimate capacity of the outlet would be “up to 300 cfs” (DEIS p. 3-25), the sensitivity analysis is based on the assumption that the temporary outlet would simply be an interim measure until a permanent outlet is operable, and it is limited to only the first 100 cfs initial phase of the State’s project (DEIS p. 3-25-26). Consequently, despite acknowledging that:

“The inclusion of the State’s [assumed 100 cfs] temporary outlet as part of the future without project conditions could reduce the impacts of a Pelican Lake outlet and mitigation measures.” (DEIS p. 47-37)

the DEIS concludes that:

“These changes would not affect conclusions reached through the alternatives evaluation.” (DEIS p. 4-36)

Clearly, compliance with NEPA requires that the Corps address the State’s authorized 300 cfs West Bay outlet as a reasonably foreseeable permanent feature of the without project future conditions, and that it address substantively the cumulative impacts of (1) the authorized Red River Valley Water Supply Project delivering Missouri River water to the Sheyenne River, (2) an inlet to deliver Missouri River water to Devils Lake as part of the State’s official water

development plan, and (3) the State's authorized 300 cfs outlet from West Bay to the Sheyenne River.

Absence of Authorization to Construct and Operate an Outlet

The DEIS cites the 1997 Emergency Supplemental Appropriations Act as its authority to undertake preconstruction engineering and design and the associated EIS for an emergency outlet from Devils Lake to the Sheyenne River (DEIS p. 1-2), and it cites the Energy and Water Development Appropriations Acts for Fiscal Years 1998, 1999, 2000, and 2001 as "providing funding for the construction of an emergency outlet from Devils Lake to the Sheyenne River" (DEIS p. 1-2), but it does not cite any congressional *authorization act* language that specifically authorizes the construction and operation of an outlet from Devils Lake to the Sheyenne River.

The 1998 Energy and Water Development Appropriations Act cited by the DEIS states, for example, that:

"The Secretary of the Army acting through the Chief of Engineers, may use up to \$5,000,000 of the funding appropriated herein to *initiate* [emphasis added] construction of an emergency outlet from Devils Lake, North Dakota, to the Sheyenne River..."

subject to a determination by the Secretary of the Army that the construction:

"is technically sound, economically justified, and environmentally acceptable and in compliance with the National Environmental Policy Act of 1969."

Provided further:

"That the economic justification for the emergency outlet shall be prepared in accordance with the principles and guidelines for economic evaluation, as required by regulations and procedures of the Army Corps of Engineers for all flood control projects..."

and:

"That the plans for the emergency outlet shall be reviewed and, to be effective, shall contain assurances provided by the Secretary of State, after consultation with the International Joint Commission, that the project will not violate the requirements or terms of the... 'Boundary Waters Treaty of 1909.'"

Not only have none of these necessary conditions been met before construction may be *initiated* on an outlet from Devils Lake to the Sheyenne River (DEIS p. 6-28), but the Corps cites no congressional authorization to *complete and operate* an outlet from Devils Lake to the Sheyenne River. The language of the 1998 Energy and Water Development Appropriations Act clearly indicates that it was the intent of the Congress that the Corps, after meeting the conditions specified, was authorized only to "initiate construction of an emergency outlet" from Devils lake to the Sheyenne River. The language demonstrates that, in the event the Corps should meet the conditions specified in the Act and initiate construction of an outlet, the Congress retained the

authority to review the status of the “emergency” before authorizing further construction and operation of the outlet and the appropriation of additional funds for its construction. That authorization would properly be in the form of a specific congressional authorization act, rather than simply through the appropriation of funds in a continued piecemeal fashion.

Inadequate Description of Environmental Impacts of the Proposed Action

Not only does the DEIS fail to describe adequately the environmental impacts of the operation of the proposed Pelican Lake 300 cfs outlet, but the discussion that is provided is designed to minimize and obscure the impacts that are identified.

The downstream impacts of the operation of the proposed Pelican Lake 300 cfs outlet under a “wet future scenario” where those impacts would be most severe have not been modeled, so they have simply been interpolated from the impacts of West Bay 300 cfs and 480 cfs alternatives modeled under two “moderate” (1450 and 1455 feet) lake future scenarios. For example:

“Impacts to aquatic resources were evaluated for a 300 cfs constrained and a 480 cfs unconstrained outlet from West Bay... The effects of outlets from other locations, such as Pelican Lake, would have to be interpreted from these findings. It is *possible* [emphasis added] that a Pelican Lake outlet would approximate the water quality effects of a 300 cfs West Bay outlet and the flow effects of a 480 cfs West Bay outlet.” (DEIS Appendix C, p. C-38)

“The determination of the effects of operating an outlet from Devils Lake is dependent on the conditions assumed to persist into the future and the location of the outlet. These two conditions affect the quality of the water to be discharged into the Sheyenne River and flows that are in the Sheyenne River, which in turn affects the assumptions concerning the operation of an outlet... Because of the uncertainty as to which outlet operation plan would be proposed for design, 300 cfs or 480 cfs – constrained or unconstrained, the analysis of natural resources effects was designed to bracket the potential effects for the *two moderate lake scenarios* [emphasis added] selected for analysis...

The outlet plan preliminarily selected for design does not originate in West Bay *and falls somewhat outside the bounds for this analysis* [emphasis added]. The water quality effects on aquatic resources *would likely be* [emphasis added] very similar to those identified with the West Bay 300 cfs outlet, constrained by water quality and channel capacity. However, since a Pelican Lake outlet captures the fresh water flowing into Devils Lake, the outlet would have substantially higher flows, and the effects of increased flow on aquatic habitat in the Sheyenne River *would likely be* [emphasis added] closer to the effects identified with the West Bay 480 cfs outlet. In lieu of additional modeling, the water quality effects of the 300 cfs constrained operation and the flow effects of the 480 cfs unconstrained operation were used to evaluate the potential effects of the Pelican Lake outlet on aquatic resources.” (DEIS p. 5-45)

In discussing the impacts of the operation of the proposed Pelican Lake 300 cfs outlet on the Sheyenne River under the more “moderate” 1450 feet lake future scenario, the DEIS shows a

“typical operation year” that imposes 300 cfs flows from the outlet on Sheyenne River base flows that peak at 200 cfs in July and average less than 100 cfs from May 1 through September 1, with flows from the outlet dropping to an average of perhaps 50 cfs from September 1 through November 30 (DEIS Figure 35, p. 5-50). Therefore, in a “typical operation year” under the 1450 “moderate” scenario, it appears that the Pelican Lake 300 cfs outlet would be expected to discharge about 80,000 acre-feet of water from Devils Lake to the Sheyenne River. Under these “moderate” conditions, the DEIS states that:

“Operation of the Pelican Lake outlet would result in a substantial change in the flow regime of the Sheyenne River. Discharges of up to 300 cfs over a major portion of the summer would represent a 5- to 10-fold increase in summer/fall flows along the Sheyenne River.” (DEIS p. 5-48)

“...the outlet could result in up and down flows with sudden and extreme fluctuations in flow. These are the types of situations that made it difficult for species to adapt to habitat conditions.” (DEIS p. 5-48)

“The changes in flow duration, stage and frequency could result in an increase in erosion and sedimentation on Sheyenne River.” (DEIS p. 5-52)

“The changes on the Sheyenne River in water quality, hydrology, geomorphology and habitat could result in substantial changes in aquatic biota.” (DEIS p. 5-53)

“Even under a constrained operation approach, the levels of many water quality constituents are increased by two to three times to concentrations just below the established water quality standards.” (DEIS p. 5-53)

“...although water quality standards on the Sheyenne River are not violated, the percent of time any particular concentration is exceeded increases dramatically. For example, sulfate exceedences go from zero to 42 percent for the 250 mg/l sulfate level.” (DEIS p. 5-53)

“The loss of habitat due to increased flows, changes in channel geometry, loss of overbank cover and sedimentation, coupled with changes in water quality and algal growth, would all contribute to a substantial change in the aquatic community present in the Sheyenne River. Projected water quality changes associated with outlet operation may adversely influence fish reproduction and result in lost-year classes. The cumulative result of all these changes would be a decrease in diversity and density of aquatic species in the Sheyenne River. The threshold chloride levels of some aquatic species, such as mussels, would be approached with operation of an outlet; however, no effects are anticipated.” (DEIS p. 5-53)

“Many of the effects associated with the operation of an outlet cannot readily be quantified.” (DEIS p. 5-96)

“Some of the aquatic losses would not be mitigated; for example, loss of invertebrates, loss of fish year classes, loss of wetted usable area due to increased channel width, and changed channel morphology.” (DEIS 5-97)

“Changes in the aquatic community would persist for many years after outlet operation ceased, especially on the Sheyenne River above Lake Ashtabula.” (DEIS Appendix D, p. D-31)

“... the 300 cfs [West Bay] constrained pumping alternative would cause much less damage than the 480 cfs [West Bay] unconstrained pumping alternative [which approximates the flow impacts of a 300 cfs Pelican Lake outlet] under either the moderate or wet climatic scenario.” (DEIS Appendix A, p. A-254)

“The flow impacts due to a Pelican Lake alternative could be dramatic, particularly in the upper Sheyenne, which is essentially isolated from recolonization. Water quality changes would be devastating to uinonids.” (DEIS p. 5-102)

“Substantial to significant adverse impacts on aquatic habitat availability and suitability can be expected under most if not all of the Devils Lake outlet options. The most flow sensitive habitat types, such as riffles where shallow, fast habitats predominate, would be almost entirely eliminated for a majority of the year. The largest adverse impacts on habitat would likely occur in the Sheyenne River above Lake Ashtabula, where stages are projected to increase up to 3 feet.” (DEIS Appendix C, p. C-38)

“Downstream interests would bear most of the negative impacts of this [480 cfs] plan [which reflect the water quantity impacts of a Pelican Lake 300 cfs outlet]. Flooding may increase, primarily on agricultural lands along the Sheyenne River. Higher flows may exacerbate streambank erosion that may threaten farmstead structures and residences along the river. The added flow translates into stage increases, resulting in additional damage to structural property from direct flooding. Under these circumstances, flood easements would be purchased to compensate landowners for future expected losses to their properties. The potential for bearing these adverse impacts of an outlet is a source of controversy with downstream interests and has produced conflict with their upstream neighbors.” (DEIS p. 4-10)

“As in the case of an overflow, farms that withdraw water from the Sheyenne River or the Red River for irrigation could suffer reduced crop yields from the lower river water quality associated with an outlet. Exacerbated flooding in the Sheyenne River could damage agricultural property, including lands, equipment, and structures. Also, higher flows in the river could affect some farms that straddle the river... These river crossings may be impeded or prohibited by additional river flow associated with an outlet.” (DEIS p. 5-42)

“In rare instances, there could be overbank flooding due to unforecasted rainstorms and the inability to turn the outlet off in time.” (DEIS p. 5-56)

“Using a ¼ mile area of influence, groundwater changes could potentially affect about 112,000 acres of riparian lands along the Sheyenne River and 76,000 acres along the Red River.” (DEIS p. 5-57)

“Although the Sheyenne River channel appears currently stable, channel instability may be onset if the flows are increase[d] due to the operation of an outlet... The process of channel adjustment may take 50 to 100 years or more.” (DEIS Appendix C, p. C-69)

“There is an increased risk of transfer of biota or the increase in the distribution of existing organisms associated with any feature that improves the connectivity between systems that have been segregated for many centuries.” (DEIS 5-56)

As noted above, the DEIS shows that, in a “typical operation year” under the more “moderate” 1450 feet future lake level scenario, the proposed Pelican Lake 300 cfs outlet would discharge approximately 80,000 acre-feet of water from Devils Lake to the Sheyenne River, primarily from May through August. Although the DEIS does not show a “typical operation year” for the Pelican Lake 300 cfs outlet under the “wet future scenario,” in order to prevent an overflow, it appears that the outlet would have to operate at its 300 cfs maximum capacity for the full seven months from May 1 to November 30 every year. For example, with the lake reaching 1457 feet even with the outlet in operation (DEIS p. 5-86), it would have a surface area of approximately 230,000 acres (DEIS Figure 7, p. 2-26). The average annual 21 inches of precipitation in the Devils Lake area during the 1993-1999 period on which the “wet future scenario” is based (DEIS p. 4-12) would contribute 402,500 acre-feet of precipitation directly to the surface of the lake each year. With the additional average 317,000 acre-feet of inflows during that period (DEIS p. 1-5), total annual accruals would average 719,000 acre-feet through the first 21 years of the “wet future scenario.” The average annual 29 inches of evaporation through the 1993-1999 period (WEST Consultants, Inc., 2001) would be expected to remove 556,000 acre-feet per year from the lake, leaving an average annual net accrual of 162,000 acre-feet that would have to be removed by the outlet to prevent the lake from continuing to rise above 1457 feet. A 300 cfs outlet operating at maximum capacity for seven months would remove 126,000 acre-feet per year, so it appears that the Pelican Lake 300 cfs outlet would have to operate at maximum capacity from the fifth through the 21st year (DEIS Appendix A, p. A-110) of the a “wet future scenario” in order to prevent the lake from overflowing to the Sheyenne River and justify its construction.

Because the downstream impacts of the operation of the proposed Pelican Lake 300 cfs outlet have not been modeled, the DEIS attempts to interpret the possible impacts—examples of which are cited above—based on the water quality impacts of a 300 cfs constrained West Bay outlet and the water quantity impacts of a 480 cfs unconstrained West Bay outlet modeled under “moderate” future lake conditions of 1450 and 1455 feet. However:

“A wet future in the Devils Lake basin would also probably result in a wet future in other basins.” (DEIS p. 5-81)

including the Sheyenne River Basin, and the statements that:

“The primary downstream area affected would be those areas flooded when the flow on the upper and lower Sheyenne River reach 1,000 and 1,500 cfs, respectively.” (DEIS Appendix C, p. C-138)

and:

“Operation of an outlet at 300 cfs would have limited effect on the extent or duration of flooded area along the upper or lower Sheyenne River with flows not exceeding 1,000 or 1,500 cfs, respectively.” (DEIS Appendix C, p. C-138)

indicate that the operation of the outlet would not, in fact, be constrained to the 600 cfs capacity of the Sheyenne River channel during a “wet future scenario” as claimed (DEIS p. 3-14, 4-18), so the impacts could be expected to be substantially greater and more severe than those described under the moderate future scenarios discussed in the DEIS.

It is instructive, therefore, to consider how the DEIS describes the downstream impacts associated with the more than 50 percent increase in discharges from these “moderate” conditions (from 80,000 acre feet to 126,000 acre-feet per year) of a Pelican Lake 300 cfs outlet operating under “wet future scenario” conditions where the Sheyenne River would already be experiencing unusually high flows:

“Because the scenario is based on a wet climate, the pumping *may* [emphasis added] last longer and greater quantities *may* [emphasis added] may be pumped out. Therefore, the impacts described for the stochastic analysis would last longer and the flow effects would be greater. For example, erosion would be more, aquatic effects from flow would be the same type but would be of a greater magnitude, soil salinity effects would also be of the same type but irrigators and land users would be subject to those effects for a longer period.” (DEIS 5-86)

“In summary, changes in hydrology would be significant with a Pelican Lake alternative because large amounts of water could be discharged during wet periods in the Devils Lake Basin due to improved water quality. Erosion will be greater, summer nursery habitat will be less, unproductive habitat will increase in summer and fall, and change in flow magnitude between fall and winter will be greater. Therefore, aquatic communities may survive the water quality changes of the alternative, only to be affected by the change in habitat and hydrology. The changes in the aquatic community would persist for many years after outlet operation has ceased.” (DEIS p. 5-55)

That’s it! These two paragraphs are the sum and substance of what the public, the Congress and other decision-makers are told about the specific environmental impacts of the operation of the proposed Pelican Lake 300 cfs outlet in the “wet future scenario” under which outlet proponents such as the North Dakota congressional delegation, Ramsey County elected officials and Lake Emergency Management Committee representatives are advocating that the outlet be justified (Associated Press, 2002a).

Of course, the reader is told that more detailed discussion of the impacts under the scenario future is presented in the Technical Appendices (DEIS p. 5-66), but examination of Appendix C, which addresses “Environmental Resources,” reveals only the same kinds of abstract and ambiguous generalizations that are used in the DEIS itself to minimize and obfuscate the downstream impacts of the operation of the proposed Pelican Lake 300 cfs outlet under the “wet future scenario” necessary to rationalize its construction.

The failure of the DEIS to provide the *detailed* statement of the qualitative and quantitative environmental impacts of the construction and operation of the proposed Pelican Lake 300 cfs outlet required by NEPA renders the DEIS technically inadequate and legally deficient on its face.

Devils Lake Outlets – Technically Unsound and Economically Unjustified

The DEIS concludes that the proposed Pelican Lake 300 cfs outlet only:

“Minimally reduces flood damages around the lake and moderately reduces the potential for a natural overflow event.” (DEIS p. 4-38)

However:

“When balancing the project needs and objectives, including cost effectiveness, downstream water quality impacts, and other considerations, the Pelican Lake 300 cfs outlet alternative is the best overall outlet plan. Additionally, it is moderately effective in controlling future lake levels” (DEIS 1-S-7).

Under a conventional stochastic analysis, the proposed Pelican Lake 300 cfs outlet would reduce the expected lake stage from 1450 feet without the outlet to 1449.5 feet with the outlet—a half foot reduction (DEIS p. 1-S-4). Without the outlet, there is a 50.6 percent chance that the lake would reach or exceed 1450 feet and a 20.8 percent chance the lake would reach or exceed 1454 feet (DEIS p. 1-S-4-5). The outlet would reduce the chance that Devils Lake would reach elevation 1459 feet where it would begin to overflow to the Sheyenne River from 9.4 percent to 4.1 percent (DEIS p. 5-71). “Devils Lake would have to rise to 1460.6 before there would be a significant flow (at least 300 cfs) to the Sheyenne River” (DEIS p. 2-9), and the proposed Pelican Lake 300 cfs outlet would reduce the chance of that occurring by 2 percent, from 4 percent without the outlet to 2 percent with the outlet (DEIS Appendix B, Table II.ST-2, p. B-195). However, the 1 percent chance that Devils Lake would reach elevation 1463 feet where the damages would be the greatest (DEIS p. 2-9, 5-71-84; Appendix C, p. C-124) still remains at 1 percent even if the Pelican Lake 300 cfs outlet is built (DEIS Appendix B, Table II.ST-2, p. B-195). Thus, the outlet would do virtually nothing to prevent the most serious damages resulting from an overflow of Devils Lake at 1463 feet.

Under the “wet future scenario,” the lake would continue to rise another 10 feet from the January 2002 elevation of 1447.1 feet to 1457 feet even with the outlet in operation (DEIS p. 5-89), and with any significant increase in precipitation from the 1993 to 1999 average, it also would overflow to the Sheyenne River (see The Wet Future Scenario – Fantasizing Feasibility below).

Moreover, as pointed out above, during a “wet future scenario” when the Sheyenne River already has high flows, the operation of the outlet would have to be constrained below its maximum capacity, in which case it would be even less effective in preventing the lake from continuing to rise above 1457 feet, or, if operated at maximum capacity, it would result in even more severe downstream impacts on the Sheyenne River. Consequently, the proposed Pelican Lake 300 cfs outlet is technically unsound on its face.

According to the DEIS:

“Therefore, there is about a 75 percent chance that if an outlet were built it would not be economically beneficial.” (DEIS p. 1-S-5)

“The outlet plan that has been preliminarily selected for design is not economically justified using methods that would determine expected net benefits by producing probability-weighted benefits and costs.” (DEIS p. 1-S-7)

“The outlet alternative under the stochastic analysis with the highest benefit-cost ratio (although it is not shown to be economically justified) is the Pelican lake 300 cfs outlet.” (DEIS p. 4-3)

The benefit-cost ratio for the proposed Pelican Lake 300 cfs outlet under the stochastic analysis is 0.37 (DEIS Table 4, p. 4-2). This is even less than the 0.69 benefit-cost ratio of taking no additional action whatsoever in the Devils Lake Basin to protect the local infrastructure (DEIS p. 3-24, Table 4, p. 4-2). The benefit-cost ratios for the other outlet alternatives considered are: West Bay 300 cfs outlet = 0.28, West Bay 480 cfs outlet = 0.01, Pelican Lake 480 cfs outlet = 0.10, Pelican Lake Bypass 480 cfs-PL 2 = 0.14, Pelican Lake Bypass 480 cfs-PL3 = 0.21, and East End Outlet = 0.02 (DEIS Table 4, p. 4-2)

The Energy and Water Development Appropriations Acts for Fiscal Years 1998, 1999, 2000 and 2001 specify:

“That the economic justification for the emergency outlet shall be prepared in accordance with the principles and guidelines for economic evaluation as required by regulations and procedures for the Army Corps of Engineers for all flood control projects, and that the economic justification be fully described, including the analysis of the benefits and costs, in the project plan documents.” (DEIS p. 1-2)

The DEIS states that:

“The Corps of Engineers traditionally recommends plans that show the greatest expected net benefits, where benefits exceed costs based on the probability of events. As a standard process under the Principles and Guidelines, this is referred to as the National Economic Development, or NED, plan. A stochastic approach was used for economic evaluation. The benefit-cost ratio of the best outlet plan incorporating probabilities of occurrence is 0.37.” (DEIS Abstract)

The proposed Pelican Lake 300 cfs outlet, therefore, is without economic justification under the law, as well as under the Corps' own Principles and Guidelines. Consequently, the Corps has no alternative under the law except to recommend that the outlet not be built.

Hidden Costs

The DEIS lists the Total First Cost of the proposed Pelican Lake 300 cfs outlet as \$97,651,000 (DEIS Table 3, p. 3-23) and the Total Costs at \$117,000,000 (DEIS Table 4, p. 4-2) to \$125,000,000 (DEIS Table 6, p. 4-13). However, because the lake would continue to rise under the "wet future scenario" even with the outlet (DEIS p. 5-86), it still would be necessary to incur the additional costs of implementing infrastructure protection measures (DEIS p. 5-89), including raising the levees protecting the City of Devils Lake, relocating homes, building temporary levees, raising selected roads and railroads, and protecting or relocating utilities (DEIS p. 3-9).

The DEIS estimates these additional infrastructure protection costs under the "wet future scenario" without the outlet and the lake reaching 1460.6 feet (DEIS Table B, p. 1-S-4) at \$585 million (DEIS Table 6, p. 4-13). With the outlet in operation and the lake reaching 1457 feet, (DEIS p. 5-86)—just two feet below overflow elevation, it might be assumed that these infrastructure protection costs still could reach \$300 to \$400 million. Therefore, the total cost of implementing the Pelican Lake 300 cfs outlet plus the associated infrastructure protection for a lake level of 1457 feet required with this alternative is not the \$125 million shown in the DEIS, but likely is *in the range of \$425 to \$525 million*.

The Wet Future Scenario – Fantasizing Feasibility

In outlining the rationale for evaluating alternatives under a "wet future scenario," the DEIS explains that:

"The stochastic modeling was based on an assumption of the stationarity of the climate. Because of the uncertainty of and the differing scientific opinions regarding future climatic conditions in the Devils Lake basin, a scenario based analysis was also performed. In situations of uncertainty, the Principles and Guidelines allow for development of alternative future conditions, or scenarios. This scenario based analysis was used to specifically address potential solutions to the problems in the basin if the recent wet conditions continue." (DEIS Abstract)

"The scenarios for Devils Lake include the WET future, the moderate trace 1445, an even more moderate trace 1450, and a DRY future. The WET future assumes that the years 1993 to 1999 would occur for two cycles. At this point the lake would reach the overflow elevation of 1459 in the year 2014. The period 1993 to 1999 is repeated again to generate overflow and then the years 1980 to 1990 to finish out 50-yrs. The WET future was necessary to assess the impacts of a natural overflow from Stump Lake to the Sheyenne River." (DEIS Appendix A, p. A-21).

“The wet future scenario analysis evaluated one set of 50-year lake levels that is based on very recent climatic conditions for the years 1993-1999. The wet future scenario repeats the climatic and hydrologic conditions for the seven highest inflow years in recent history (1993-1999) for three cycles, causing the lake to overflow. The remaining years of the 50-year cycle were defined assuming climatic and hydrologic conditions similar to 1980 through 1999, and then 1980 through 1990, to complete the 50-trace.” (DEIS p. 3-5)

The DEIS offers no evidence and makes no claim that the “wet future scenario” provides a more reliable—or even remotely more realistic—analysis of future lake conditions than the stochastic analysis. On the contrary, the DEIS points out that:

“The duration of the recent wet conditions cannot be determined definitely because of the complex interactions between global weather factors.” (DEIS Appendix A, p. 1-18)

“As indicated by the regional Weather Information Center, climatic conditions during 2000-15 are expected to be similar to conditions during 1980-99.” (DEIS Appendix A, p. 1-18)

“No one can know or predict with confidence climate 50 years into the future. The National Academy of Sciences (NAS) provided guidance for another study (citation omitted) on analysis when the future is uncertain. They warn that, *‘Failure to deal explicitly with uncertainty leads the unwary to have far too much confidence in the resulting forecast and analysis, which can lead to bad public decisions* [emphasis added]...’” (DEIS Appendix A, A-20)

“While the use of a wet future scenario may provide insight into potential benefits of the outlet alternatives, such an analysis provides little assurance as to the soundness of such an investment, since it is tied to the unlikely assumption that a particular scenario will ever occur.” (DEIS p. 4-40)

“The probability of the scenario future occurring is practically zero because it is an artificial scenario.” (DEIS p. 5-88)

“The alternatives were evaluated using an alternate future without conditions, which assumes a continued wet climate scenario based on the climate sequence from 1993 through 1999 repeated until a natural overflow to the Sheyenne River occurred. The probability that the lake will rise exactly in this way is zero.” (DEIS p. 5-71)

Thus, the “wet future scenario” has nothing to do with reality, but is simply a set of manufactured conditions specifically created to result in just enough precipitation over a 21-year period to cause the lake to overflow without the Pelican Lake 300 cfs outlet, but not so much that the lake would still overflow even with the outlet. But, of course, “The probability that the lake will rise exactly in this way is zero” (DEIS p. 5-71). Nevertheless, proponents of the outlet cite this artificially contrived scenario as justification for building the outlet. For example:

“The key to getting a Devils Lake outlet, one official says, is to persuade the Army Corps of Engineers [to] accept a so-called ‘wet-cycle scenario.’

Ramsey County Commissioner Joe Belford said that if the corps accepts the premise that the wet cycle of the last eight years will continue for another 10 years or more, the project easily would meet federal benefit-cost requirements.” (Associated Press, 2002b)

Of course, the Corps cannot accept a premise that the wet cycle of the last eight years (2001 was not a wet year in the Devils Lake Basin) will continue for another 10 years because it is without valid scientific foundation. However, rather than dealing with the matter on a rational, factual basis:

“Mike Connor, manager of the Devils Lake Basin Joint Water Board said... ‘I think it’s time for people to hollar a little bit... Well, maybe not a little bit, maybe a whole lot.’” (Associated Press, 2002b)

Unfortunately, this has been the approach universally employed by proponents of an outlet from Devils Lake since the lake began its rapid rise in 1993. The Corps, however, is obligated to take a more responsible approach, and it is required under NEPA to recognize and respond substantively to the National Academy of Sciences’ admonition that failure to deal explicitly with uncertainty leads the unwary to have far too much confidence in the resulting forecast and analysis, which can lead to bad public decisions. The proposed outlet from Devils Lake reflects precisely such a failure to deal explicitly with uncertainty leading the North Dakota congressional delegation, the Governor, the State Water Commission and other unwary proponents of the outlet to have far too much confidence in the “wet future scenario” and, therefore, to advocate a bad public decision.

According to the DEIS:

“To better understand the sensitivity of assumptions used for future lake conditions, both with and without project, the alternatives were evaluated in comparison to other possible conditions.” (DEIS p. 3-24).

Those conditions were (1) No Action Protection Strategy, (2) Moderate Future Scenarios, (4) Erosion of Natural Outlet, and (5) Proposed Temporary Outlet As Part of Future Conditions (DEIS pp. 3-24-25). However, the DEIS does not provide a sensitivity analysis of the proposed Pelican Lake 300 cfs outlet itself under a “wet future scenario.” As noted above, the “wet future scenario” is a manufactured set of conditions specifically contrived to result in just enough precipitation over the next 21 years to cause the lake to overflow without the outlet, but not so much that it would still overflow even with the outlet. Therefore, it would be helpful to the public and to decision-makers in understanding the tenuous nature and dubious relevance of the “wet future scenario” for the Corps to perform a sensitivity analysis of the outlet itself to show the effect on the efficacy and benefits of the proposed outlet of variations from the specific “wet future scenario” conditions outlined in the DEIS. For example, at elevation 1457 feet, the “expected lake stage” with the proposed Pelican Lake 300 cfs outlet after the first 14 years of the “wet future scenario” (DEIS Table B, p. 1-S-4; Appendix A p. A-21), the lake would have a

surface area of approximately 230,000 acres (interpolated from DEIS Figure 7, p. 2-6). Annual inflows to the lake from 1993 to 1999 averaged 317,000 acre-feet (DEIS p. 1-5) and precipitation, which averaged 21.0 inches from 1993 to 1999 (WEST Consultants, Inc., 2001) would contribute another 402,500 acre-feet to the 230,000 acre lake, for average total annual accruals of 719,000 acre-feet. Evaporation, which averaged 29.0 inches, or 2.42 feet, during the period (WEST Consultants, Inc, 2001), would remove 319,440 acre-feet, and the outlet, operating at maximum capacity for seven months would remove another 126,000 acre-feet, leaving a net gain of 36,900 acre-feet per year under the “wet future scenario.”

If average annual precipitation in the Devils Lake Basin under the “wet future scenario” were to increase by one inch (5 percent) above the 1993-1999 level, average annual inflows might be expected to increase from 317,000 acre-feet to 332,850 acre-feet and direct precipitation on the lake would increase from 402,500 acre-feet to 420,900 acre-feet, for an increase in total average annual accruals to 753,750 acre-feet. Evaporation would remove a little more than 319,440 acre-feet because the surface area of the lake would be a little larger, but the outlet still would remove only 126,000 acre-feet, leaving a net gain of about 71,000 acre-feet, or about 3.7 inches, per year, bringing the lake dangerously close to the overflow elevation of 1459 feet by the end of the third seven years of the “wet future scenario.” An increase in average annual precipitation under the “wet future scenario” of two inches (10 percent) would result in an overflow to the Sheyenne River even with the proposed Pelican Lake outlet operating at full capacity, thus negating much of the assumed benefit of the outlet.

Similarly, a decrease of one inch (5 percent) in average precipitation from the “wet future scenario” would not result in significant overflows to the Sheyenne River even without the proposed outlet, and a decrease of two inches (10 percent) would result in virtually no overflow, again negating much of the assumed benefit of the outlet.

Paradoxically, the DEIS cites the impossibility of predicting future lake levels with certainty as the reason for employing the “wet future scenario” (DEIS Abstract) and to justify the proposed outlet (DEIS p. 1-S-8), but it ignores the fact that realization of the anticipated benefits of the proposed outlet presumes an ability to predict future lake levels with virtual absolute certainty, because any significant deviation from the “wet future scenario” would substantially diminish or negate those benefits.

The \$125 Million Lottery Ticket

The DEIS attempts to rationalize a justification for the proposed outlet in the face of such climatic uncertainty (DEIS p. 1-S-4-10; Appendix A, p. A-9-18) and tenuous benefits (DEIS p. 5-71) by suggesting that:

“Given the uncertainty and controversy around the ability to forecast future lake stages, a decision to proceed with an outlet must consider risk aversion. Instead of relying on the probability analysis, one could view the construction of an outlet as an insurance policy, rather than as an investment.” (DEIS p. 1-S-3)

The analogy, however, is patently invalid. An insurance policy is not a guarantee that an adverse event will not occur, but rather provides compensation if the event should occur. The proposed Pelican Lake 300 cfs outlet does neither. It does not guarantee that the lake will not continue to rise—under the “wet future scenario” it would (DEIS p. 5-86)—or that it would not overflow to the Sheyenne River—it could (DEIS p. 5-89), nor does it provide any compensation if either of these occurs. Consequently, rather than viewing the proposed Pelican Lake 300 cfs outlet as an insurance policy as the DEIS suggests, it should more accurately be viewed as a \$125 million (DEIS Table 6, p. 4-13) lottery ticket—with virtually no chance of winning (DEIS pp. 4-40, 5-71, 5-88).

Erosion of the Natural Outlet – Indulging Geologic Fiction

The DEIS states that:

“A sensitivity analysis was conducted assuming the natural outlet would erode and no actions would be taken to prevent it. The analysis is based on the materials present at the site and not on a determination if it actually eroded in the past. There is evidence and some debate if it did erode in the past or did it actually accrue sediment. Materials at about 7 feet are over 7,000 years old. Devils Lake is estimated to have spilled to the Sheyenne River within the last 1,200 years; therefore, it did not erode at that time.” (DEIS p. 5-90; Appendix C, p. 129).

Nevertheless, the DEIS then goes on to describe the impacts that would occur if the natural outlet were to erode:

“If the outlet were allowed to erode, the effects would be much more significant. It is estimated that the outlet would erode down to elevation 1450 feet with a maximum discharge of about 6,000 cfs and erosion of over 400,000 cubic yards of material...

Downstream effects resulting from the erosion of the natural outlet would be significant. There would be increased sedimentation in the Sheyenne River and Lake Ashtabula. Erosion would also increase in the Sheyenne River. There would be substantial effects to the downstream aquatic resource on the Sheyenne and Red Rivers. High flows, changed water quality, sedimentation, erosion, increased groundwater levels, and overbank flooding would result in the loss of aquatic and riparian habitats. Aquatic bitoa and terrestrial wildlife populations in the riparian zone would be totally modified.” (DEIS p. 5-90; Appendix C, p. 129)

However, in discussing erosion of the natural outlet, DEIS Appendix B states that:

“Based on the most recent surveys, overflow from Stump Lake occurs when the lake level reaches an elevation of 1459.1 feet. This analysis indicates that the outlet control point would slowly be eroded, with the maximum potential erosion occurring down to 1450.8.

...

Under this analysis, a peak discharge of 1,440 cfs was expected to occur during year 17. (This compares to a peak discharge of only 206 cfs when no erosion of the Tolna Coulee is assumed.)... “ (DEIS Appendix B, p. B-25)

Whether the peak discharge would be 6,000 cfs or 1,440 cfs, because the potential impacts identified with erosion of the natural outlet nine feet (or eight feet) from its current elevation of 1459 feet to 1450 feet (or 1450.8 feet) are so dramatic, it is appropriate and instructive to consider further the likelihood of this occurring.

The DEIS states that the materials at seven feet (elevation 1452 feet) are over 7,000 years old and that the last overflow is estimated to have occurred within the last 1,200 years, so the outlet did not erode at that time. However, this overlooks a substantial portion of the geologic evidence regarding the absence of erosion of the natural outlet in past overflow events. For example, Murphy et al. (1997) report that:

“Sufficient sedimentological evidence exists from the Tolna Outlet to document *at least six times* [emphasis added] in the Holocene (the last 10,000 years BP [Before Present]) when water from the Devils Lake/Stump Lake system overflowed into the Sheyenne River.”

and they cite evidence of five overflow events occurring between 7,500 and 9,500 years ago and four occurring between about 700 and 5,000 years ago, including one that apparently lasted for several hundred years, for a total of nine overflow events in the past 10,000 years since Devils Lake was formed by the Wisconsin Glacier (Murphy et al., 1997). In fact, the sediments in Tolna Coulee six feet down at elevation 1,453 feet are over 5,000 years old and those eight feet down at elevation 1451 feet are over 7,400 years old (Murphy et al., 1997). Therefore, with materials at 1453 feet being over 5,000 years old and those at 1451 feet being over 7,400 years old, it is clear that the outlet did not erode to elevation 1450 feet during any of at least four overflow events that have occurred in the last 5,000 years. In fact, with the sediments at 1458.5 feet—a half foot below the current overflow elevation of 1459 feet—being over 1,100 years old, it is evident that virtually no erosion of the outlet occurred during the last overflow event about 700 years ago (Murphy et al., 1997).

The geologic evidence indicates that, rather than the outlet eroding during overflow events, the trend has been the exactly the opposite, with deposition of sediment during overflow events building up the outlet. As Murphy et al. (1997) point out:

“Evidence of at least seven fluvial events has been preserved in the channel fill deposits of [Tolna Coulee] trench TT1. Fluvial events are marked by layers of coarse grained sediments *presumably washed into the Coulee by water flowing from Stump Lake. These sediments were deposited at times when water levels in Devils Lake were sufficiently high to cause water to flow into the Sheyenne River through Tolna Coulee.* [emphasis added] It is likely that additional flood events occurred in this Coulee, but are not recorded in the sediments at this site. The sedimentological evidence is missing either because floods were of insufficient size and duration, or because it was removed by the scouring action of subsequent flood events.”

However, Murphy et al. (1997) cite no geologic evidence, and the DEIS cites no other evidence, of sediments having been scoured from the outlet during overflow events. Therefore, if additional overflow events did occur, it is more reasonable to conclude that they were minor and did not result in either significant erosion or sedimentation of the channel. Examination of the data presented by Murphy et al. (1997) provides further support for this conclusion. For example, at a second site in the Tolna Coulee, snail and clam shell fragments were found in 3500 to 4,500 year old sediments between elevation 1455 and 1456 feet (Murphy et al., 1997). Although it is possible that these could have been deposited in a former isolated wetland at the sampling site in Tolna Coulee, it is equally possible that they were incorporated in sediments deposited during an overflow event or events. The fact that snail and clam shell fragments were found at seven different strata dating from 7,000 to 8,000 years ago at the two sampling sites (Murphy et al., 1997) would suggest that their deposition was related to events occurring on a larger scale than the appearance of isolated wetlands. In any case, the presence of these shell fragments in 3,500 to 4,000 year old sediments three to four feet below the current overflow elevation of 1459 feet provides additional evidence that significant erosion of the outlet has not occurred in any of at least three overflow events that have occurred over the last 2,500 years, and that overflows actually resulted in aggregation rather than erosion of the outlet.

A revised DEIS should expand its discussion of the probability of the natural outlet at Tolna Coulee eroding if Devils Lake should overflow by pointing out that there is no evidence in the geologic record to indicate that significant erosion of the outlet has occurred during any of at least four overflow events that have occurred in the past 5,000 years, or in any of the nine overflow events that have occurred since Devils Lake was formed 10,000 years ago. The DEIS should also point out that the evidence from the geologic record shows that, instead of resulting in erosion of the outlet, overflow events tend to deposit sediment in the outlet, causing the overflow elevation to increase. A revised DEIS should make it absolutely clear that there is no evidence in the geologic record to support speculation that an overflow would cause the outlet to erode nine feet to elevation 1450 and result in the discharge of up to 6,000 cfs of water to the Sheyenne River with the erosion of over 400,000 cubic yards of material.

Not only is there no evidence in the geologic record that significant erosion of the outlet would result if an overflow occurred, but the probability of an overflow occurring is, itself, very small. The probability that Devils Lake will reach elevation 1459 feet is 9 percent and the probability that it will reach elevation 1460 is 7 percent (DEIS Appendix B, Table II.ST-2, p. B-195). However:

“...Devils Lake would have to rise to 1460.6 before there would be a significant flow (at least 300 cfs) to the Sheyenne River... Computer simulations of possible future lake levels assumed no erosion of the natural divide and suggest a probable maximum lake level of about 1463, with a corresponding outflow exceeding 2,500 cfs...” (DEIS p. 2-9)

Elsewhere, the DEIS states that the peak discharge with no erosion of the outlet would be only 550 cfs (DEIS p. 4-34), and the Fish And Wildlife Service points out in Appendix 2 that analysis of Corps data for a 6-year flood event and a Standard Project Flood (SPF) event revealed that:

“The 6-year outflow showed that the maximum outflow out of the basin within the first 24 months was in month 18, with a maximum outflow of 80 cfs, with a 24 month average of 61 cfs. The SPF outflow showed a maximum of 1196 cfs in month 6, with a 24 month average of 463 cfs.” (DEIS Appendix 2, p. 14-6)

The probability that Devils Lake will rise to 1463 feet is only 1 percent and the probability that it will rise to 1460.6 is about 5 percent (DEIS Appendix B, Table II.ST-2, p. B-195).

Consequently, the probability that Devils Lake will rise to a level where significant overflows would occur is extremely low, and construction of the proposed Pelican Lake 300 cfs outlet would reduce that probability by half but would not eliminate it—and it would not reduce the 1 percent chance the lake will reach 1463 feet at all (DEIS Appendix B, Table II.ST-2, p. B-195). As the DEIS points out:

“The probability of a natural overflow is small and therefore effects described under the scenario future without project conditions for downstream effects of a natural overflow do not have a high probability of occurring.” (DEIS p. 5-88)

“Since the probability of a natural overflow to the Sheyenne River is relatively low (less than 10 percent), a natural overflow is not assumed to be part of the most likely future.” (DEIS p. 4-12)

Finally, in the unlikely event that Devils Lake would rise to elevation 1459:

“...measures at the location of a natural overflow to minimize erosion were also considered as potential features of the most likely future without the proposed project.” (DEIS p. 3-9)

and:

“One of the assumptions for the base condition upon which alternatives were compared was that measures would be taken at the location of a natural overflow to minimize erosion... The structure envisioned with that alternative included a 380-foot-wide concrete drop structure, with a cost for the structural portion of \$1.1 million.” (DEIS p. 4-33)

Thus, (1) the probability that Devils Lake will overflow is very low, (2) if Devils Lake were to approach the overflow elevation, measures would be implemented to prevent erosion of the natural outlet and (3) even if Devils Lake were to overflow and no measures were taken to protect the natural outlet, there is no evidence in the geologic record to indicate that significant erosion of the outlet would occur. Consequently, the discussion of erosion of the natural outlet in the DEIS is entirely speculative and has little relevance, and a revised DEIS should make that clear.

Wetlands, Wetland Drainage and Wetland Restoration

A fundamental deficiency of the DEIS is its narrow focus on engineering solutions to the problems resulting from the rising level of Devils Lake, to the total exclusion of any consideration of the cause. For example, the DEIS fails to relate those problems to Devils Lake's long and consistent history of wide fluctuations in levels, ranging from completely dry at 1394 feet to overflowing at 1459 feet (DEIS p. 2-2). The DEIS does not address the fact that, despite widespread recognition that the lake was at its current level as recently as 1830 and was officially recorded at elevation 1438.4 feet in 1867, development was permitted to encroach on the bed of the lake as the level continued to decline to its modern day low of 1400 feet in 1940; development was permitted to continue on the bed of the lake as the level began to rise again after 1940; it was permitted to continue even after 1983 when the lake had reached 1427 feet with a surface area of 54,000 acres and the State was seeking disaster assistance from the Corps for "flooding problems" around the lake; and it even has been permitted since the lake began its recent dramatic rise in 1993. The DEIS does not recognize the simple fact that the "flooding problem" at Devils Lake is the direct result of people moving onto the bed of the lake which has been higher than its current level in the past.

Although increased levels of precipitation from 1993 to 1999 (average of 21 inches per year, compared with an average of 16.5 inches per year from 1980 to 1992 [WEST Consultants, Inc., 2001]) obviously were the force driving the recent dramatic rise of the lake, the DEIS does not make any attempt to identify the contribution of other factors, such as land use changes and wetland drainage in the Devils Lake Basin, in exacerbating the rise of the lake.

Water Resource Management in the Devils Lake Basin

In his Final Biennial Report for 1911-1912, the North Dakota State Engineer reported to the Governor that:

"The water level of any lake possessing no outlet depends on the amount of evaporation, seepage, rainfall and run-off into the Lake from the drainage area tributary to it. The drainage area of Devils Lake is nearly two thousand square miles, but the land lies so nearly level, and there are so many marshes, meadows, small ponds and lakes which arrest the flow of the water and from which it evaporates that it is not likely that the run-off from more than seven hundred to eight hundred square miles of the total area ever reaches the lake." (State Engineer, 1912)

Unfortunately, management of water resources in the Devils Lake Basin since that time has been characterized by decades of rampant and unregulated private wetland drainage and ill-considered public agricultural drainage projects (Pearson, 1985). For example, in the mid-1950s when wetland drainage began causing problems for landowners lower in the watershed, the NDSWC placed a moratorium on private drainage in the Devils Lake Basin, but the State Engineer made no attempt to enforce the moratorium and the chairman of a local water board even declared publicly that farmers would continue to drain wetlands regardless of State laws and the NDSWC's moratorium (Pearson, 1985).

With agricultural flooding problems north of Devils Lake intensified by wetland drainage in the upper basin, the U. S. Soil Conservation Service was authorized in 1967 to begin detailed

planning of a 246,477-acre Starkweather Watershed Project, involving the construction of more than 60 miles of channels and the drainage of some 60,000 additional acres of prairie wetlands and lakes, with the 2000 cfs main channel (Channel “A”) discharging directly into Six-Mile Bay of Devils Lake (Pearson, 1985). However, the Soil Conservation Service abandoned the project in 1973 after environmental impact analyses mandated by NEPA disclosed the project’s severe adverse impacts on wetlands and water quality in Devils Lake (Pearson, 1985).

An Associated Press story in 1975 already was reporting flooding problems at Devils Lake:

“... But today too much water plagues the lake and nearby residents.

...

Between 1972 and 1975, the lake rose six feet [to 1425 feet], becoming a threat to low-lying roads and private property along the shore.

...

In the dry period, roads were built across narrow parts of the lake bed; farmers planted and harvested below the old high water mark; and the city of Devils Lake expanded into part of the old lake bed.

Now the city is planning to build a dike between the lake and the town and the Army Corps of Engineers is working with local officials to plan for a possible flood during spring runoff.

A heavy runoff could raise the water level one or two feet and flood businesses and private property, city and state authorities said.

The State Highway Department says North Dakota 57, at the narrows between the main lake and East Bay, has been damaged by high water...

County and township roads also have been damaged by high water...” (Zaleski, 1975)

With flooding problems in the watershed and around Devils Lake unresolved and the Starkweather Watershed Project stalled, the 1975 North Dakota Legislative Assembly established a Devils Lake Basin Advisory Committee, dominated by drainage interests and supported by the NDSWC, to study water management problems in the Devils Lake Basin and to recommend solutions (Pearson, 1985). However, at the same time, the Legislative Assembly appropriated \$600,000 for the construction of the 2,000 cfs Channel “A” of the Starkweather Project, thereby precluding any possibility of the committee’s not including this feature in its recommendations (Pearson, 1985). Although the cost participation agreement for Channel “A” between the NDSWC and the Ramsey County Water Management District explicitly stated that:

“It is the determination of the Commission that additional drainage of presently noncontributing areas will significantly contribute to increased lake levels in the Devils

Lake chain, thereby increasing the flood hazard potential to the City of Devils Lake and to thousands of acres of littoral land.”

and required the Ramsey County Water Management Board to enforce all applicable drainage laws, noting:

“Specifically, this includes the establishment of an effective drainage permit program to implement Section 61-01-22 of the North Dakota Century Code (or any other similar statutory permit program hereafter enacted) and any supplementary regulations adopted by the Commission. Further, this includes the establishment of a procedure for closure of unauthorized drains, lateral drains, or ditches as required by Section 61-16-50 (or any similar statute hereafter enacted). An effective drainage regulatory mechanism is essential to preserve the integrity of Channel ‘A’ and the investment of the State.”

The State drainage laws required a permit for the drainage of watersheds 80 acres or larger and a permit was not to be issued unless an investigation determined that the quantity of water drained would not flood or adversely affect downstream landowners. However, county water boards typically take the position that it is not their job to be policemen and will take action on violations only if formal complaints are filed (Pearson, 1985). Consequently, both the county water boards and those who want to drain wetlands routinely ignore the permit requirement. Because landowners generally are reluctant to file complaints against neighbors (Associated Press, 1991), only the most egregious violations are reported (Pearson, 1985). When complaints are filed, they are then routinely dismissed (1) as being ‘clean-outs’ of existing drains, a claim that is difficult to disprove after the fact, (2) as involving watersheds of less than 80 acres, either by arbitrary decision of the board or the expedient of two or more drains being used to drain the watershed, (3) by simply denying that drainage has occurred, or (4) ordering perfunctory closures while permits are issued after the fact (Pearson, 1985). If the complaint cannot be dismissed readily through these ploys, the boards frequently will repeatedly delay action until the complainant finally gives up in frustration. Consequently, little effort was made by either the Ramsey County Water Management Board or the NDSWC to enforce the agreement, and, in fact, between 1977 and 1982, the State Engineer himself approved a dozen drainage permits in the Starkweather and Edmore Watersheds, both of which drain through Channel “A” (Pearson, 1985).

Despite mounting concern over the rising levels of Devils Lake in the mid-1970s (Zaleski, 1975), the State Engineer approved a permit in 1976 for the partial drainage of Hurricane Lake, an area heavily used by migrating snow geese, adding another 7,000 acre-feet of water to Devils Lake (Pearson, 1985). Then during the spring and summer of 1979 when Devils Lake was rising from elevation 1422 feet to 1427 feet, 74,000 acre-feet of water were discharged into the lake from Channel “A” (U. S. Army Corps of Engineers, 1980). These flows were equal to nearly half of the 159,000 acre-feet flowing into West Bay from Mauvais Coulee (U. S. Army Corps of Engineers, 1980), which historically had been the primary route of inflows into the Devils Lake Chain (U. S. Army Corps of Engineers, 1983). In fact, on May 4, 1979, with Devils Lake at 1424.6 feet, the 1,560 cfs discharge from Channel “A” exceeded the 1,350 cfs natural flows at Mauvais Coulee (U. S. Army Corps of Engineers, 1980).

By 1981, the rising lake was creating problems at the City of Devils Lake's new industrial park, which one city official admitted privately was in an area that "is too low to begin with" (Zaleski, 1981).

In the spring of 1982, at the same time the Ramsey County Commission was petitioning to have Devils Lake declared a disaster area because of flooding that was occurring as the lake reached a level of 1427 feet (Associated Press, 1982), the Ramsey County Water Management Board, which operates Channel "A," had the control gates open to permit the discharge of additional water into Devils Lake (Pearson, 1983).

A year later, in the spring of 1983, while the State was seeking disaster assistance from the Corps for flooding problems around Devils Lake, the Ramsey County Water Management Board, without the required permit from the State Engineer, constructed a ditch from Lake Irvine to drain up to another 6,000 acre-feet of water into Devils Lake, and then a few months later approved a permit to drain Morrison lake into Devils Lake (Pearson, 1985).

The attitude of drainage proponents in the face of the escalating problems created by the rising level of Devils Lake was still being expressed two years later in 1985 by Ramsey County Water Resource Board chairman and Devils Lake Basin Advisory Committee member Robert Garske:

"Wetland drains are a 'round robin' that profit both farmers and businessmen, Garske said. Farmers can raise wheat instead of ducks on drained wetlands, and businessmen profit from more customers drawn to the Devils Lake fishery, which runoff water supports by keeping the lake from getting too salty and killing the fishery, he said.

'Rather than trying to hold (water) back, we need to figure out how to get more in,' Garske said." (Buttz, 1985)

That attitude has not changed. At an August 26, 2000, public meeting in Valley City, North Dakota, on the State of North Dakota's proposed "temporary" emergency outlet from Devils Lake, former North Dakota State Engineer David Sprynczynatyk stated that his office would resume issuing permits for wetland drainage in the Devils Lake Basin as soon as the outlet is built.

At a June 22, 1983, public meeting held by the Corps on water related problems in the Devils Lake Basin, the North Dakota Chapter of The Wildlife Society reviewed the history of water resource mismanagement in the Devils Lake Basin and recommended that the Corps (1) place a ban on further wetland drainage in the basin, (2) initiate a study of the impacts of current water management practices on Devils Lake, (3) conduct a comprehensive hydrologic investigation to identify the factors contributing to flooding and other water resource problems in the basin, (4) assume leadership in developing a comprehensive water resource management program for the basin, and (5) reject the alternative of an outlet to the Sheyenne River and require that water management problems be resolved within the basin (Pearson, 1983). However, nearly two decades later, the Corps still has done none of these, but instead remains focused on the construction of an outlet from Devils Lake to the Sheyenne River, while still not having done the studies necessary to determine the causes of the problem it purports to solve.

Wetlands and Wetland Drainage in the Devils Lake Basin

Although the DEIS acknowledges that wetland drainage in the Devils Lake Basin is an issue that was raised in the scoping process (DEIS Appendix C, p. C-102), it makes no attempt to address the issue. In describing the Base Conditions/Affected Environment, the only information related to wetlands provided in the DEIS is:

“Wildlife in the Devils Lake basin is closely associated with water and wetlands. Shallow water wetland habitats are clearly the most valuable habitat for waterfowl. Many wildlife and waterfowl species utilize lakes in the Devils Lake chain and surrounding habitats. Stump Lake has long been known as an excellent staging and breeding area for waterfowl and shorebirds. In 1905, President Theodore Roosevelt declared a portion of the west bay of Stump Lake as a National Reservation, making it one of the oldest refuges in the nation.” (DEIS p. 2-14)

and in Appendix C, the DEIS states, regarding Base Condition – Upper Basin, that:

“Wetland habitats of Devils Lake and its watershed can be grouped into broad categories which provide several functions and values unique to wetlands such as flood water storage, habitat for wildlife, filtering of polluted water, and groundwater recharge. Most of the wetlands in the basin can be classified as palustrine, emergent, temporarily, seasonally and seimpermanently flooded wetlands. The upper basin chain of lakes can be described as lacustrine.” (DEIS Appendix C, p. C-20)

There is no discussion of the numbers and acreages of the different types of wetlands originally in the Devils Lake Basin, no discussion of the numbers, acreages and types of the wetlands that have been drained and their flood water storage capacity, and no discussion of the contribution of that drainage to the rise in Devils Lake. In fact, the only substantive information on wetlands and wetland drainage is in the Fish and Wildlife Coordination Act Report, which is Appendix 2 to the DEIS. Here the reader learns that the Corps initiated an evaluation of upper basin storage in 1999 and that the evaluation was conducted by WEST Consultants, Inc., of San Diego, California (DEIS Appendix 2, p. 10-1). The reader also learns here that the study by WEST Consultants identified 200,000 acres of intact wetlands and 92,000 acres of drained wetlands, but the study covered only 68 percent of the Devils Lake Basin (DEIS Appendix 2, p. 10-2-3). In addition, the digital evaluation model used by WEST Consultants employed a 5-foot contour for 65 percent of the upper basin and a 10-foot contour for the remaining 35 percent that was studied, resulting in a failure to identify many drained wetlands (DEIS Appendix 2, p. 10-3). WEST Consultants also supplemented the digital evaluation modeling with National Wetland Inventory maps based on 1979 and 1983 photography (DEIS Appendix 2, p. 10-3), but nearly 100,000 acres of wetlands already had been drained in the Devils Lake Basin by 1975 (TPI Consultants, Inc., 1976), so many of those also would have been missed.

“As a result, it’s likely that a significant number of drained depressions were never included in this study due to the limitations of the DEM data, a fact that WEST acknowledges.” (DEIS Appendix 2, p. 10-3)

Because of the difficulty in accurately identifying drained wetlands, a more reliable method is to compare the acreage of remaining wetlands in the Devils Lake Basin with the original wetland acreage in the basin. Hydric soils develop under saturated or flooded conditions which support the growth of hydrophytic vegetation and, therefore, are an indicator of wetlands. Approximately 588,900 acres of hydric soils occur in the Devils Lake Basin (U. S. Fish and Wildlife Service, 1997). The Devils Lake Basin Advisory Committee, in a study authorized by the North Dakota Legislative Assembly and prepared with the assistance of the NDSWC and under the supervision of the Governor's Office, determined that 569,000 acres of wetlands originally were present in the Devils Lake Basin, and that 98,000 acres of wetlands had been drained in the basin by 1975 (TPI Consultants, Inc., 1976). Thus, it appears that from 569,000 to 589,000 acres of wetlands originally were present in the Devils Lake Basin.

Ludden et al. (1983), using photogrammatic mapping of selected areas of the basin, estimated that a total of 412,000 acres of drained and undrained wetlands were present. The Fish and Wildlife Service estimated in 1997 that there were 211,000 acres of undrained and 189,000 acres of drained wetlands in the Devils Lake Basin (U. S. Fish and Wildlife Service, 1997).

A July 14, 1998, letter from the North Dakota State Water Commission to the St. Paul District of the U. S. Army Corps of Engineers also reported that:

“Approximately 211,000 acres of wetlands exist in the Devils Lake basin including upper basin lakes, which comprise about 30,000 acres of the total.”

The results of the study by WEST Consultants, Inc., are consistent with these figures. WEST Consultants identified 201,990 acres of “possibly intact” existing wetlands in the 68 percent of the Devils Lake Basin included in their study (WEST Consultants, Inc., 2001).

West Consultants also identified 92,429 acres of “possibly drained” wetlands in the 68 percent of the Devils Lake Basin included in their study (WEST Consultants, Inc., 2001). However, as noted above, the methods used in the WEST Consultants' study have been found to underestimate the acreage of drained prairie wetlands by 50 percent (DEIS Appendix 2, p. 4-2), so the 92,429 acres of drained wetlands identified in the WEST study likely reflect only half of 185,000 acres of drained wetlands in the 68 percent of the Devils Lake Basin included in their study.

Therefore, it may be concluded that a minimum of 189,000 acres to a maximum of 378,000 acres of wetlands have been drained in the Devils Lake Basin.

Contribution of Wetland Drainage to the Rise of Devils Lake

Although wetland drainage obviously is not the sole cause of the recent rise of Devils Lake, with inflows to the lake from 1993 to 1999 averaging 317,000 acre-feet (DEIS p. 1-5), the contribution of wetland drainage to those inflows clearly warrants careful evaluation.

Ludden et al. (1983) estimated the average depth of natural wetlands in the Devils Lake Basin at 7.1 inches in 2-year frequency runoffs, 11.8 inches in 10-year runoffs, 14.6 inches in 25-year

runoffs, 15.7 inches in 50-year runoffs, and 18.5 inches in 100-year runoffs, with maximum average depths of 20.9 inches. The higher levels of precipitation and runoff in the Devils Lake Basin from 1993 to 1999 were preceded by four years of severe drought—comparable to the Dust Bowl days of the 1930s—from 1988 to 1992, so many of the wetland basins were dry and at near maximum potential storage capacity at the time the increased precipitation began in 1993. This would suggest, therefore, that as much as 328,860 acre-feet of water entered Devils Lake as a direct result of the lost storage capacity of 189,000 acres of drained wetlands in the basin. This is 2.6 times the volume that could be removed from the lake by the proposed Pelican Lake 300 cfs outlet operating at maximum capacity for seven months from May through November. This does not include the continued annual inflow reductions that would have occurred if those wetlands had not been drained.

The U. S. Fish and Wildlife Service estimated the maximum storage capacity of the 189,000 acres of wetlands it determined had been drained in the Devils Lake Basin at 491,000 to 926,100 acre-feet (U. S. Fish and Wildlife Service, 1997). This is 3.9 to 7.4 times the volume that could be removed from the lake by the proposed 300 cfs outlet operating at maximum capacity for seven months, and it also does not include the subsequent annual inflow reductions to the lake that would have occurred if those wetlands had not been drained.

WEST Consultants estimated the volume of the 92,429 acres of “possibly drained” wetlands they identified in the 68 percent of the Devils Lake Basin included in their study at 132,729 acre-feet (WEST Consultants, Inc., 2001). However, as noted above, the methods used by WEST to identify drained wetlands likely resulted in the actual acreage of drained wetlands being underestimated by 50 percent. Therefore, doubling the volume of the 92,429 acres of “possibly drained” wetlands identified in WEST’s study results in a total of 265,458 acre-feet of lost initial storage capacity, and, consequently, added inflows to Devils Lake when the 1988-1992 drought ended in 1993, as a direct result of wetland drainage. This is 2.1 times the volume that could be removed from the lake by the proposed outlet operating at maximum capacity for seven months, and it is over three times the volume that would be removed by the outlet in a typical year of operation. Of course, this also does not include the subsequent reductions in annual inflows that would have occurred if those wetlands had not been drained.

It is evident from these data that the drainage of 189,000 acres of wetlands in the Devils Lake Basin—the minimum estimate—resulted in 265,458 to 924,100 acre-feet of additional water initially reaching Devils Lake when the 1988-1992 drought was succeeded by unusually high levels of precipitation beginning in 1993. That is equivalent to an additional 2 to 7 feet at the January 2002 lake elevation of 1447.1 feet and surface area of 132,000 acres, including Stump Lake (DEIS p. 2-6), and it again does not include the subsequent reduction in annual inflows that would have occurred if those wetlands had not been drained.

The average annual reduction in runoff provided by the renewable storage of existing, intact wetlands in the Devils Lake Basin includes (1) the difference between average annual precipitation (21 inches from 1993 to 1999) and evaporation (29 inches from 1993 to 1999) (WEST Consultants, Inc., 2001), which was 8 inches, (2) percolation into the soil from wetland basins, which averages 7.2 inches, and (3) evapotranspiration from areas of emergent vegetation in wetlands and vegetation at the perimeter, which averages 25.32 inches (U. S. Fish and

Wildlife Service, 1997). However, because information is not available on the proportions of wetland basins that are open water and the proportions that have vegetation, and because the proportions vary with changes in water elevations, for purposes of illustration, it will be assumed that the combined evaporation and evapotranspiration from intact wetland basins average 27 inches from 1993 to 1999. Therefore, the average annual runoff reduction from existing, intact wetlands is in the range of 1.1 feet, or 1.1 acre-feet per acre.² This means that the 211,000 acres of existing wetlands in the Devils Lake Basin reduce annual runoff by 232,000 acre-feet during wet periods like 1993-1999. This also means that, if they were still intact, the 189,000 acres of drained wetlands in the Devils Lake Basin could reduce average annual runoff by another 207,600 acre-feet. This continuing reduction in average annual runoff if the 189,000 acres of wetlands had not been drained is equivalent to 1.6 feet at the lake's January 2002 elevation of 1447.1 feet, or 1.65 times the volume that could be removed from the lake each year with the proposed Pelican Lake 300 cfs outlet operating at maximum capacity.

Wetland Restoration and Upper Basin Storage

If all of the precipitation occurred as snow in the winter and all of the runoff occurred as snowmelt in the spring with the ground frozen, these figures would represent the annual net renewable storage capacity and runoff reduction provided by wetlands (particularly seasonal and temporary wetlands). However, precipitation and runoff also occur at other times of the year, and non-wetland and drained wetland soils also have the capacity to store water and reduce runoff through percolation, evaporation and evapotranspiration, so these must be subtracted to arrive at the net increase in runoff reduction attributable to wetlands or to the net reduction in runoff attainable through wetland restoration.

WEST Consultants estimated the average additional annual runoff reduction that could be achieved by restoring wetlands in the Devils Lake Basin at 0.35 feet, or 4.2 inches, i.e., 0.35 acre-feet per acre of restored wetland (WEST Consultants, Inc., 2001), and explained that:

“This value primarily represents the difference between storage and evaporation in restored depressions and the percolation and evapotranspiration from the soil before restoration. It does not represent the average evaporation from a depression, which was approximately 20 or more inches per year.” (WEST Consultants, Inc., 2001)

However, the WEST Consultants report points out that:

“The PRINET model did not include a soil moisture algorithm beneath the [restored wetland] depressions. Instead, the depressions were modeled as hard-bottom ‘bowls’. Consequently, infiltration of water from a depression into the soil and evapotranspiration from the soil in the dry portion of a depression (when the depression was less than 100 percent full) were not modeled. Therefore, the model could be underpredicting the net total evaporation (free surface evaporation plus evapotranspiration from the soil) in the depressions.”

² Particularly in wet years, wetlands less than a foot in depth may still reduce runoff by more than their depths as water is alternately lost through evaporation and seepage and replenished by precipitation.

...

Since the net total evaporation from depressions was probably underpredicted, the annual runoff reduction with depression restoration could be underestimated.” (WEST Consultants, Inc., 2001)

The omissions and underpredictions result in a substantial underestimation of runoff reduction resulting from wetland restoration. First, including percolation from drained wetland basins but excluding seepage from restored wetlands, which averages 7.2 inches annually (U. S. Fish and Wildlife Service, 1997), underestimates average net annual runoff reduction of restored wetlands by 0.6 foot. Second, including evapotranspiration from drained wetland basins but not from restored wetland, which averages 25.2 inches in prairie wetlands (U. S. Fish and Wildlife Service, 1997), further reduces average net annual runoff reduction of restored wetlands. Third, surface evaporation in the Devils Lake Basin from 1993 to 1999 averaged 29 inches (WEST Consultants, Inc., 2001), or an additional 0.75 foot more than the 20 inches attributed to restored wetlands in WEST’s calculation of runoff reduction. Therefore, the 0.35 foot average annual runoff reduction for restored wetlands calculated by WEST appears to underestimate the actual runoff reduction by 0.6 foot of seepage and about 0.75 foot of combined evaporation and evapotranspiration, or by a total of about 1.35 feet. This is a 386 percent underestimation of potential runoff reduction by restored wetlands.

In evaluating the potential for upper basin storage, WEST Consultants determined that 79,762 acres, or 86 percent, of the 92,429 acres of drained wetlands they had identified in the 68 percent of the Devils Lake Basin included in their study were a half foot or greater in depth (WEST Consultants, Inc., 2001). Using 0.35 feet as the net average annual runoff reduction from restored wetlands, WEST then calculated the average annual runoff reduction for different climate sequences with restoration of 25 percent (19,472 acres) 50 percent (39,681 acres), 75 percent (59,872 acres) and 100 percent (79,762 acres) of those drained wetlands a half foot or greater in depth (WEST Consultants, Inc., 2001). WEST calculated the capacity of 50 percent of the 79,762 acres of drained wetlands a half foot or greater in depth (39,681 acres) to be 63,608 acre-feet, and the average annual runoff reduction with restoration to be 12,910 acre-feet under stochastic climatic sequences and 15,642 acre-feet under the wet climate sequence (WEST Consultants, Inc., 2001). With 100 percent restoration, the 79,762 acres of drained wetlands a half foot or greater in depth identified in the WEST study would have a capacity of 127,835 acre-feet and would result in an average annual runoff reduction of 23,841 acre feet under stochastic climate sequences, or 31,193 acre-feet under the wet climatic sequence (WEST Consultants, Inc., 2001).

The only upper basin storage alternative considered in the DEIS is restoration of 50 percent of the 79,762 acres of drained wetlands greater than a half foot in depth identified in the WEST Consultants study:

“For this analysis to determine effects on Devils Lake stage effectiveness and cost effectiveness only 50 percent of the possibly drained depressions by volume, with depths greater than 6 inches, were used.” (DEIS p. 3-19)

In discussing the impacts of this level of upper basin storage, the DEIS states:

“Restoration of 50 percent by volume of the total possibly drained depressional area greater than 6 inches in depth in the upper basin would reduce the amount of fresh water entering Devils Lake... Because of the small amount of annual inflow reduction, ranging from 13,000 (stochastic) to 16,000 (wet scenario) acre-feet, there would be little long-term effect on water quality and the aquatic resource in Devils Lake (based on restoration of 50 percent by volume of the total possibly drained depressions greater than 6 inches in depth).” (DEIS p. 5-32)

Consequently:

“On the basis of analyses performed to date, upper basin storage will not meet the project objectives as a stand-alone project.” (DEIS p. 4-9)

However, the assertion upon which this conclusion is based, i.e., that wetland restoration would result in only “a small amount of annual inflow reduction, ranging from 13,000 (stochastic) to 16,000 (wet scenario) acre-feet,” seriously underestimates, misrepresents and minimizes the potential for wetland restoration in the upper basin to reduce flooding problems at Devils Lake.

First, the 12,000 to 16,000 acre-feet annual inflow reduction cited in the DEIS fails to consider the initial 63,608 acre-feet of storage created by the restoration of 39,681 acres of drained wetlands in the upper basin (WEST Consultants Inc., 2001). Second, the 12,000 to 16,000 acre-feet annual runoff reduction figures are based on the 0.35 foot figure from the WEST Consultants report which, as discussed above, underestimates seepage from restored wetlands by 0.6 foot and underestimates evaporation from restored wetlands by 0.75 foot, for a total underestimation of the annual runoff reduction from restored wetlands of 1.35 feet. Therefore, the inflow reduction resulting from the restoration of 39,681 acres of drained wetlands would be 63,608 acre feet initially, and then an average of 46,000 acre-feet under stochastic climate conditions to 62,000 acre-feet under the “wet future scenario” annually thereafter.

However, because the WEST Consultants’ study also underestimates the acreage of drained wetlands in the Devils Lake Basin by 50 percent, the potential inflow reduction with restoration of half of the 159,524 acres of drained wetlands over a half foot in depth that likely are present in the basin actually would be 92,000 acre feet (stochastic) to 112,000 acre-feet (wet future) annually. This is 1.15 percent of the volume that would be removed by the proposed Pelican Lake 300 cfs outlet in a typical operation year and 89 percent of the volume that could be removed with the outlet operating at maximum capacity under the “wet future scenario,” respectively.

It should also be noted that van der Kamp et al., (1999) report that:

“The long-term water level data presented in this paper show conclusively that when the catchments of small prairie wetlands are converted from cultivated land to undisturbed brome grass the wetlands dried out and remained dry, even in years of heavy precipitation.”

Therefore, inflows to Devils Lake could be reduced even further by planting the catchments of both existing and restored wetlands to permanent grasses, rather than cultivating to the margins of the wetlands.

The DEIS attempts further to diminish the feasibility of alternatives involving wetland restoration in the upper Devils Lake Basin by stating that:

“About 75 percent of the land use (about 30,000 acres) in the depressions is classified as cropland or grassland.” (DEIS p. 5-32)

“Landowners in the upper basin... feel that drainage is necessary in order to productively farm their land. They feel that additional inflows from their drainage practices have had little impact on increasing the lake level.” (DEIS P. 4-9)

“On the basis of previous attempts to voluntarily acquire runoff storage areas in the upper basin, this plan will be difficult and costly to implement. The value of payments to acquire easements for storage areas, which are based on lost productivity of the land, are likely to be contested by landowners. This increases the administrative costs of implementing this plan significantly.” (DEIS p. 4-9)

“Program administration and negotiations, included to acquire land through condemnation (Minimum of \$4,800 per tract).” (DEIS Appendix B, p. B-29)

“Converting 30,000 to 40,000 acres of farmland to runoff storage areas reduces the economic base of the local economy that is already highly dependent on the agricultural sector. The storage areas could be farmed in dry years. But, in those years when they could not be farmed, the impact would be felt throughout the local economy.” (DEIS p. 4-9)

“Annual costs for previous upper basin storage programs ranged from \$40 to \$90 per acre per year.” (DEIS Appendix B, p. B-29)

“This analysis assumes that the storage is in place when the lake is above elevation 1440. Previous programs have varied from an annual program to one with a 10-year contract. Therefore, it is assumed that an expanded program could involve contract lengths of any duration up to 10 years. Implementation of an upper basin storage program would involve construction of outlet structures, acquisition or leasing of land and development of an operating plan for outlet structures when the lake recedes. On the basis of these items, it was assumed that the implementation of the storage would cost \$1000 per acre. Therefore, the total project costs are \$39,681,000.” (DEIS p. 3-20).

Consequently:

“On the basis of the stochastic analysis, upper basin storage is not cost effective. Net benefits result under the wet future scenario.” (DEIS p. 6-30)

Elsewhere, however, we find that:

“In 1996, agriculture accounted for 48 percent of the area’s economy, followed by Federal Government outlays (38 percent), tourism (10 percent) and manufacturing (3 percent). Tourism has been the fastest growing component of the area’s economic base, increasing from 3 percent in 1980 to 10 percent in 1996. Tourism is particularly important in Ramsey County, having reached nearly two-thirds the importance of agriculture in 1996. The tourism figures are understated because they account only for the expenditures of travelers from out of state.” (DEIS p. 2-16)

“The per-acre market value of land and buildings is also similar: Ramsey \$391, Benson \$320, Nelson \$476.” (DEIS p. 5-19)

and:

“...many candidate wetlands in the High and Severe [salinization] hazard classes may be good candidates for restoration because they may no longer represent productive cropland. Many such wetlands are now unsuited or marginal for agriculture due to drainage-related salinity problems. Placing restored saline wetlands and their surrounding buffer zones into a conservation reserve program may be an attractive option to farmers whose land is not producing efficiently because of existing, drainage-related salinity problems.” (DEIS Appendix C, p. C-113)

“Costs for these outlet structures ... could vary from \$0 up to \$100,000 per site.” (DEIS Appendix B, p. B-29)

“Costs for easements or leases could vary widely since some lands may be more valuable agricultural areas than others may (ranging from 10 to 70% of fee title).” (DEIS Appendix B, p. B-29)

“Approximately 200,000 acres of land is currently under the CRP program in the basin.” (DEIS Appendix C, p. C-17)

The Corps’ failure to consider wetland restoration objectively and forthrightly in discussing the upper basin storage alternative is reflected in the statement that:

“Upper basin storage consists of storing water in depressions in the upper basin. This alternative would result in the conversion of agricultural lands to intermittent or permanent wetland storage areas.” (DEIS p. 6-30)

Clearly, the Corps does not understand, or does not want to recognize, that wetland *restoration* involves converting wetlands that have been drained for agricultural production *back to wetlands*, rather than converting what were originally agricultural lands to wetlands.

It is apparent that restoring 40,000 to 80,000 acres of farmed wetlands—equivalent to 20 to 40 percent of the CRP acreage or 2.6 to 5.2 percent of the 1,562,000 acres of cropland in the

basin—would not have a negative impact and could actually have a positive impact on the local economy and could be an attractive alternative for many landowners with marginally productive drained wetlands or drained wetlands that still cannot be farmed in wet years. It also is evident that the \$1000 per acre figure “assumed” in the DEIS for wetland restoration represents a significantly inflated estimate—perhaps by two to five times—of the actual costs of a properly managed wetland restoration program. Consequently, by minimizing the benefits of wetland restoration by several fold while exaggerating the costs by several fold, the DEIS seriously underestimates, and thereby dismisses, the feasibility of the upper basin storage alternative.

The failure of the DEIS to provide an accurate, objective and realistic analysis of upper basin storage involving wetland restoration and other land use practices to reduce inflows to the lake renders the discussion of alternatives to the proposed action, and therefore the DEIS itself, inadequate on their face.

Continuing Wetland Drainage in the Devils Lake Basin

Because continued drainage of the remaining 211,000 acres of wetlands in the Devils Lake Basin would eliminate the water storage and runoff reduction capacity of those wetlands and exacerbate the problems caused by the high water at Devils Lake, the U. S. Fish and Wildlife Service points out:

“Accelerated wetland drainage in the upper basin as a result of the outlet. The Service is concerned about the accelerated loss of wetland habitat in the upper basin as a result of this project. A private drainage survey conducted from 1965 to 1980 documented a 2.5 percent drainage rate of wetlands per year in the Devils Lake basin. The Service believes that the pressure to drain remaining unprotected wetlands for agricultural and other purposes has not diminished over time. Within the basin, there is continuing legal action by lower basin landowners who claim that they have been adversely affected by the rise of Devils Lake, due in part to decades of [f] wetland drainage by upper basin landowners. In the recent wet cycle, the practice of wetland drainage, including pumping, has shown itself to be a contributing factor in the rise of the lake. The Service is concerned that the construction of an outlet, without control on additional inflow to the lake from drainage, will provide the supporters of wetland drainage a way to export water out of the basin.” (DEIS Appendix 2, p. 11-20)

Therefore, the Service recommended:

“Moratorium on new wetland drainage and pumping within the basin for the life of the project. The Service recommends that the Corps coordinate with the State to insure that any plans to remove water from the landscape and place it into the lake through wetland drainage be postponed during the life of the project to avoid the need to move additional water downstream. Taking precautions to prevent further aggravating factors, such as wetland drainage and pumping from increasing lake levels is consistent with the goal of the outlet to reduce lake levels and prevent a natural overflow of Devils Lake to the Sheyenne River.” (DEIS Appendix 2, p. 14-2)

As noted above, at a meeting in Valley City, North Dakota, on August 26, 2000, former North Dakota State Engineer David Sprynczynatyk stated that his office would resume authorizing wetland drainage in the Devils Lake Basin as soon as an outlet to the Sheyenne River is built. However, the Corps summarily dismisses the Fish and Wildlife Service's recommendation with the perfunctory statement that:

“The Corps concurs that controls on future wetland drainage in the upper basin would improve the effectiveness of other features. *The decision to place a moratorium on future drainage is under the control of the State.*” (Emphasis added)

Thus, the Corps agrees that future wetland drainage in the Devils Lake Basin would reduce the effectiveness of its proposed \$125 million Pelican Lake 300 cfs outlet, but it leaves control of future wetland drainage to the very agency which already had announced publicly two years ago that it will resume authorizing wetland drainage as soon as the outlet is built!

WEST Consultants estimated that the 201,990 acres of remaining wetlands identified in their study have a capacity of 481,604 acre-feet (WEST Consultants, Inc., 2001), and draining those wetlands could contribute up to 481,000 acre feet of water to Devils Lake.³ This is equivalent to 3.6 feet at the lake's January 2002 elevation of 1447.1 feet, and it is 3.8 times as much water as the proposed Pelican Lake 300 cfs outlet could remove operating at maximum capacity from May through November. Drainage of the 201,990 acres of remaining wetlands would also result in an additional 272,000 acre-feet of inflows to Devils Lake annually, which is more than two times the volume that could be removed by the proposed Pelican Lake 300 cfs outlet operating at maximum capacity.

It is clear, therefore, that before expending any further public revenues on the proposed \$125 million Pelican Lake 300 cfs outlet or other structural measures to deal with problems caused by the high water levels at Devils Lake, the Corps has a fiduciary duty to implement and enforce an effective program to prevent further wetland drainage in the Devils Lake Basin in order to protect the Federal Government's investment in those measures. That drainage prevention program and its enforcement provisions should be discussed in detail in a revised DEIS.

Indeed, Congress requires that this be part of any Corps of Engineers flood damage reduction project. Section 402(c) of the Water Resources Development Act of 1986 as amended requires, as a basic condition of Federal participation in any flood control project, the development and completion of a floodplain management plan by non-Federal interests that will preserve and enhance natural floodplain values and address those measures to be taken by non-Federal interests to preserve the level of flood protection that is provided by the project and upon which it is justified. The plan is intended to be developed as part of and concurrent with the project feasibility study. In this case it appears, to the contrary, that the Corps is not involved in working with the State of North Dakota and local agencies in developing the required plans and non-Federal activities that would be necessary to preserve the level of flood protection that is intended to be accomplished by the proposed Pelican Lake 300 cfs outlet.

Inflated Values and Exaggerated Benefits

³ The fact that wetlands may be protected by easement does not assure that they will not be drained (Grosz, 2001).

The DEIS states that:

“Rising lake levels have severely affected the rural economy around Devils Lake. Many of the farms and ranches bordering the lake have been forced to abandon operations because of the loss of pasture and croplands. At its January 2001 stage of 1447.1, the lake covered 137,000 acres [DEIS p. 2-6 puts the figure at 132,000 acres], an increase of about 93,000 acres (approximately 145 square miles) since 1993. At an average land value of \$600 per acre for non-urban land, this represents a loss of over \$55 million.” (DEIS p. 2-38)

However:

“Agricultural land that would be inundated by further rise of Devils Lake lies primarily in Ramsey County, with a relatively small area in Benson County and an even smaller area in Nelson County...

Agriculture in Ramsey, Benson, and Nelson Counties is profiled on the basis of information contained in the 1997 Census of Agriculture. The three counties have a similar agricultural profile. The farm sizes (in acres) of the three counties are similar: Ramsey 1,254; Benson 1,255; Nelson 1,136. The per-acre market value of land and buildings also is similar: Ramsey \$391, Benson \$320, Nelson \$476.” (DEIS p. 5-19)

Thus, by calculating the loss of flooded non-urban land at an inflated value of \$600 per acre instead of market value, the DEIS overestimates the damages by more than \$19 million or by 53 percent. (In fact, as shown in the following paragraph, the average value of these non-urban lands is less than \$265 per acre, so the claim that the flooding of 93,000 acres of non-urban lands since 1993 represents a loss of over \$55 million actually overestimates the loss by \$30 million or 120 percent.) And, of course, inflating the damages from flooding exaggerates the benefits of preventing those damages.

It also is necessary to recognize that less than half (91,323 acres) of the 184,182 acres of non-urban land around Devils Lake between elevations 1447 feet and 1463 feet is classified as cropland (DEIS Appendix C, Table C-5, p. C-16). Another 38,198 acres are grassland (DEIS Appendix C, Table C-5, p. C-16), which had an average value of \$165 per acre in North Dakota in 2001 (Associated Press, 2001c). The remaining 54,661 acres are classified as woodland (9,622 acres), grass-shrub (95 acres) and wetland (44,944 acres) (DEIS Appendix C, Table C-5, p. C-16) which might be expected to have values of \$100-\$125 per acre. Thus, the non-urban lands that would be flooded in the unlikely event that Devils Lake would rise to 1463 feet have a value of about \$49 million, or an average of less than \$265 per acre.

Even if the proposed \$125 million Pelican Lake 300 cfs outlet were built, the lake still would continue to rise to elevation 1457 under the “wet future scenario” (DEIS p. 5-89). As noted above in the discussion of Hidden Costs this means that some \$300-\$400 million still would have to be expended on infrastructure protection, including raising the dike to protect urban areas at the City of Devils Lake. And, if the lake should rise to elevation 1457 feet, approximately

64,000 additional acres of non-urban land, with an average value of \$265 per acre, would be flooded. This means that, even with the outlet, under the “wet future scenario” necessary to justify it, an additional \$17 million in losses would occur to non-urban land. This also means that the Corps is proposing to spend \$125 million to build an outlet to reduce the chance of flooding of the remaining 62,000 acres of non-urban land between elevations 1457 and 1463 feet, which are worth approximately \$17 million, from about 2 percent to 1 percent (DEIS Appendix B, Table II.ST-2, p. B-195).

Unfortunately however, even this may be overly optimistic because the soils of the bed of Devils Lake below elevation 1461 generally are not of the same quality as the upland soils upon which average land values in the area are predominantly based, so even the \$17 million in losses to non-urban lands that might be prevented by the outlet likely are exaggerated.

Flooding at Devils Lake – Hardships, Handouts and False Hopes

According to the DEIS:

“At its January 2001 stage of 1447.1 feet, the lake covered 137,000 acres, an increase of about 93,000 acres (approximately 145 square miles). At an average value of \$600 per acre for non-urban lands, this represents a loss of over \$55 million.” (DEIS p. 2-38)

“Since 1993, there have been 11 Presidential disaster declarations for the Devils Lake region. These declarations were made for regions within North Dakota that extended well beyond the Devils Lake area to address the effects of the climatic wet cycle, including flooding of agricultural impacts. Under emergency authorities, Federal agencies have moved or bought out and abandoned homes that were flooded by the rising lake. Approximately 400 homes around Devils Lake have been moved or abandoned in response to the rising lake waters. While some homes have been abandoned, most homes have been relocated. Some of the houses were second homes, but most were primary domiciles.” (DEIS p. 5-7)

and:

“It is likely that the physical conditions on the lake under the with- and without-project conditions would require additional relocations of homes and commercial structures with consequent social and local economic disruption.” (DEIS p. 5-8)

Proponents of an outlet frequently cite the “loss” of 400 homes and the flooding of 93,000 acres of “agricultural” land around Devils Lake as demonstrating the need to “do something” and, therefore, as justification for constructing an outlet from Devils Lake to the Sheyenne River. The DEIS states that:

“The perceived risk may be more damaging to community vitality than the actual risk. Although it is unlikely that the City of Devils Lake would be inundated, there is a *perception propagated by media coverage of the rising lake* [emphasis added] that the city proper is at risk. According to economic development officials, multiple enterprises

have postponed or deferred decisions on new investment in the city. This stigma reduces the vitality of the community and its ability to reverse the trend of population loss, through perceived economic stagnation in addition to problems associated with the lake.” (DEIS p. 5-14)

Instead of addressing these misperceptions, however, the Corps proposes to build a \$125 million outlet to the Sheyenne River:

“An intangible benefit of the outlet would be the initial psychological boost to the local economy that the solution to the problem is at hand and that the Devils Lake community will prosper in the future as a result.” (DEIS p. 4-9)

“An outlet from Devils Lake would promote economic development in the City of Devils Lake and stimulate business activity by reducing uncertainty and risks to commercial enterprises associated with rising lake levels. An outlet would also help restore regional shopping patterns that allowed the city to serve as the retail center for areas south of the lake. The construction of an outlet would temporarily stimulate business activity in the lake area and in the City of Devils Lake as the economic hub of the area.” (DEIS p. 5-42-42)

Unfortunately, even if the proposed Pelican Lake 300 cfs outlet were to be built, the lake would still continue to rise another 10 feet to 1457 feet under the “wet future scenario,” and it would still have a 4 percent chance of reaching elevation 1459 feet, a 2 percent chance of reaching 1461 feet and a 1 percent chance of reaching 1463 feet (DEIS Appendix B, Table II.ST-2, p. B-195). Consequently:

“... although a 300 cfs outlet would reduce peak levels under most climatic conditions, it would not prevent the lake from rising altogether if it is already on an upward trend and most of the costs and damages occurring under the without project condition would be incurred with this plan in place as well. A 300 cfs outlet may generate controversy among the local community, as the elation initially produced by the outlet is followed by the disappointment of unmet expectations regarding the outlet’s effectiveness in lowering lake levels.” (DEIS p. 4-9-10)

“It is supposed that a constrained or unconstrained outlet could also have negative impacts on lakeside communities if the lake keeps rising despite the outlet. *The dashed expectations could be more detrimental to community vitality than if they had never had an outlet.*” (Emphasis added) (DEIS p. 5-41)

And, as the U. S. Fish and Wildlife Service points out:

“The Service is concerned that the public’s expectation that an outlet will solve their flood problems is not met with the current alternatives. An outlet that fails to perform to the public expectation may create future pressure to operate the outlet in a way inconsistent with its original intent by increasing its pumping duration and capacity. Increasing the pumping duration or capacity will likely create additional downstream

water quantity degradation, erosion and sedimentation on the Sheyenne and Red rivers, as well as other environmental problems.” (DEIS Appendix 2, p. 15-2)

As we have already seen above in the discussion of Exaggerated Benefits, the value of the 93,000 acres the non-urban lands within the bed of Devils Lake that have been “flooded” since 1993 is not \$600 per acre, but less than \$265 per acre, so the damages are not the \$55 million claimed in the DEIS (p. 2-38), but actually less than \$25 million.

The DEIS explains that:

“The Federal Emergency Management Agency (FEMA) has led this effort [to relocate houses] around most of the lake, but the Department of Housing and Urban Development (HUD) has taken responsibility for relocating many structures on the Fort Totten Indian Reservation. FEMA administers the National Flood Insurance Program (NFIP) through which the Federal Government provides flood insurance for those communities that adopt floodplain management ordinances.” (DEIS p. 5-7)

“Regarding FEMA’s impacts on land use around the lake, the agency urged Ramsey and Benson counties and the City of Devils Lake to adopt permanent land use ordinances establishing conservation easements that prohibit new construction below 1460 feet msl in exchange for the NFIP waiver allowing structures to be moved before inundation. After much deliberation, Ramsey County decided not to adopt the ordinance, but Benson County and the City of Devils Lake decided to implement the ordinance with minor adjustments. There are an estimated 45 people in Benson county who qualify for the flood insurance endorsement and waiver.” (DEIS p. 5-15)

It is important to recognize that the rise of Devils Lake has not been the economic disaster that proponents of the outlet frequently portray. For example:

“The rising lake has adversely affected many residents around the lake. However, even under the adversity produced by the rising of Devils Lake, some parties have benefited. For example, the influx of Federal emergency funds to relocate threatened homes, provide crisis counseling, and maintain local infrastructure has brought over \$350 million in Federal funds into the Devils Lake region. This has provided a significant boost to some elements of the local economy, such as those individuals and enterprises involved in road construction or house moving, or those individuals or enterprises that support these activities (e.g., lodging, restaurants, etc.) In addition, the improvement in the Devils Lake fishery associated with lake level rises has benefited the local recreation related industry.” (DEIS p. 5-17-18)

The population of the Devils Lake Basin in 1975 was 38,473, with 12,913 living in Ramsey County (including the City of Devils Lake), 5,776 living in Nelson County and 5,957 living in Cavalier County (TPI Consultants, Inc., 1976). The population of the basin decreased 16.5 percent from 1980 to 1996 (DEIS p. 2-15), so the current population of the basin is less than 32,000. The City of Devils Lake, which had a population of 7,742 in 1980 (U. S. Army Corps of Engineers 1992), had a population of 7,672 in 1996 (DEIS p. 2-16.). Consequently, the influx of

\$350 million in Federal funds into the Devils Lake region is equivalent to \$11,000 *per person* living in the Devils Lake Basin.

In fact:

“In 1996, agriculture accounted for 48 percent of the area’s economy, followed by *Federal Government outlays (38 percent)* [emphasis added], tourism (10 percent) and manufacturing (3 percent). Tourism has been the fastest growing component of the area’s economic base, increasing from 3 percent in 1980 to 10 percent in 1996. Tourism is particularly important in Ramsey County, having reached nearly two-thirds the importance of agriculture in 1996. The tourism figures are understated because they account only for the expenditures of travelers from out of state.” (DEIS p. 2-16)

Consequently, in 2000 when local officials were seeking \$70,000 in Community Development Block Grants and economic development funds, they had difficulty showing that the rise of the lake had adversely impacted the area. As Devils Lake Economic Director Jim Dahlen explained:

“‘The challenge we have is statistically the (flooding) impact doesn’t show up real well in areas of taxable sales and services. Our unemployment rate is very low, well below the national average. And the average wage continues to rise. It’s a hard thing to show what impact the flooding’s had.’” (Anonymous, 2000)

The *Devils Lake Journal* went on to report:

“The report could also help create an argument the cost/benefit ratio being used against building an outlet – which according to Congressman Packard is only ten cents benefit for every dollar spen[t] –is out of line. According to Dahlen the cost/benefit ratio is based only [on] lost revenue and it is not taking into consideration lost land or collateral.

‘We hope this report will put some teeth in the cost/benefit ratio,’ Dahlen says. ‘But we don’t have the expertise to do it ourselves.’

‘From what I’ve heard from out congressional delegation we’ll be dead in the water if we don’t come up with this kind of report,’ Commissioner Dick Johnson admitted.” (Anonymous, 2000)

By the fall of 1997, the National Flood Insurance Program had paid over \$14 million in claims on some 300 houses around Devils Lake that had been relocated—and on which the owners had paid insurance premiums totaling only \$900,000. Owners were able to repurchase their homes from FEMA by matching the highest bid, which frequently was below market value, and then move them to another location. The cost of moving a house is approximately 70 percent of market value, plus the cost of a new lot (DEIS p. 5-8).

Some home owners filed claims and received payments for moving their houses twice because they did not move them far enough from the lake the first time. In fact, the owner of a restaurant located near the lake who was interviewed by a local television station boasted that he had been

able to make major improvements in the restaurant when it was moved the first time, and that he was expecting to make additional improvements when it was moved the second time.

In the spring of 2000, FEMA spent \$2.2 million and was seeking another \$1.3 million to buy out the town of Churchs Ferry, a small town of 113 people and 43 homes at the northwest side of Devils Lake—equivalent to \$31,000 per person (Gilmour, 2000). FEMA reportedly paid “about \$45,000 apiece for three 20-year-old mobile homes,” plus relocation incentives up to \$22,500 and averaging \$14,466 (Gilmour, 2000). In another case, the owners sold their 14 x 70 mobile home at Churchs Ferry to the government and bought a 28 x 70 double-wide and located it at another small town 13 miles away (Gilmour, 2000). In fact, one Churchs Ferry resident reportedly exulted:

“I’m getting into a gorgeous house... a step up. There’s lots of excitement... I’ve always dreamed of having a house like this. The (buyout) price we got for our house was great... wonderful and that’s all I can say about that. But we wouldn’t have been able to do this without the buyouts.” (Gilmour, 2000)

It is not surprising, therefore, that local officials are more concerned about the lake going down than they are about it continuing to go up:

“The hard numbers have been skewed by the nearly \$300 million spent[t] by the government in protecting the area through infrastructure improvements, says Dahlen. ‘What happens when the construction ends?’” (Anonymous, 2000)

Of course, constructing the proposed Pelican Lake 300 cfs outlet would bring another \$125 million into the Devils Lake area even if the lake continues to go down.

Biota Transfer – Confusing Absence of Proof with Proof of Absence

The DEIS states that:

“All of the biota in the Devils Lake basin are either known or considered likely to be present in the Red River basin. One possible exception is the striped bass, which has not been recorded in Devils Lake in many years. Many species have not been reported in the Red River basin, but were found to have sufficient means of overland or airborne dispersal that they could invade the Red River basin in the future. Other species were confirmed as being in the Red River basin on the basis of published scientific literature or from unpublished information provided by experts.

The biota of the Devils Lake basin and the Red River basin are similar, and Devils Lake does not harbor any species that are not already present in the Red River basin. Additionally, there is risk of biota transfer from natural causes and recreational users.” (DEIS p. 5-27-28)

Proponents of an outlet frequently cite such statements as proof of the absence of any risk of transfer of foreign biota to the Hudson Bay basin as a result of operation of an outlet from Devils Lake to the Sheyenne River.

However:

“The potential for an outlet to transfer biota from Devils Lake to the Red River basin was evaluated. This assessment was based primarily on existing information.

The conclusions of the study were that: (1) on the basis of all available information, it appears highly unlikely that downstream habitats would suffer substantially as a result of biota transfer caused by the Devils Lake outlet project, and (2) *available information is inadequate to allow conclusive statements to be made regarding all species of biota transfer* [emphasis added].

However, three concerns were worth noting.

- A. Though unlikely to occur, transfer of significant concentrations of toxic algae could cause substantial problems downstream.
- B. Salinity and nutrient changes to the Sheyenne River and Lake Ashtabula could cause community composition changes in these waters.
- C. *It is not certain whether any known exotic, invasive species are now present in Devils Lake.*” (Emphasis added) (DEIS p. 5-61)

“Although fish and algae communities have been fairly well documented, data sources on other biota were relatively few and incomplete. Regional experts had little knowledge of Devils Lake biota, and most agreed that the biota of the Devils Lake and Red River basins had not been particularly well studied.” (DEIS Appendix C, p. C-73)

“There are substantial data gaps in a number of taxonomic groups. Because of these gaps, it is impossible to state definitively that all species currently in Devils Lake have been accounted for. To the contrary, it is likely that Devils Lake does harbor species that have not been analyzed. Accordingly, there may be additional species that are currently unknown at this time. It is more likely, however, that many species not documented in either the Devils Lake or Red River basin actually present in both.

...The recent water level rise has created much new favorable habitat in Devils Lake for many species and has attracted increasing numbers of fishermen and recreational boaters. These anthropogenic factors are among the most important vectors of several harmful species in areas that they have invaded (e.g., Eurasian watermilfoil and zebra mussels). Any of these species could possibly find very favorable habitat in Devils Lake. The zebra mussel, in particular, could exploit the newly freshened habitats that have traditionally been too saline for mussels.” (DEIS p. 5-28)

In fact:

“Out-of-state boaters from zebra mussel areas used Devils Lake almost exclusively during 1999. Devils Lake also served as a major source of movements, i.e., a potential ‘transportation hub,’ for boats going on to other parts of ND and other states not currently infested with zebra mussels and other ANS [aquatic nuisance species].” (Grier and Sell, 1999)

Thus, even if Devils Lake does not currently harbor species foreign to the Hudson Bay Basin, it has the potential to be a major point of introduction and source of dissemination of such species in the future. As the DEIS points out:

“There is increased risk of the transfer of biota or the increase in the distribution of existing organisms associated with any feature that improves the connectivity between systems that have been segregated for many centuries. The operation of the outlet would be considered such a feature. Based on available information, there do not appear to be any organisms in Devils Lake that are not already present in the Red River or the North basin. However, it cannot be said with certainty that some may not be identified or introduced in the future. In addition, the operation of an outlet or a natural overflow may improve the conditions necessary for the dispersal of organisms currently found in the Sheyenne or Red River. No mitigation feature can be said to be 100 percent effective in eliminating the risk of biota transfer. The actual effects are unknown and cannot be predicted at this time” (DEIS Appendix C, p. C-66)

Despite the paucity of information on the biota of Devils Lake and the potentially catastrophic impacts that could result to the Hudson Bay ecosystem from the introduction of damaging foreign species, the DEIS concludes that:

“All of the biota in the Devils Lake basin are either known or considered likely to be present in the Red River basin.” (DEIS p. 5-27)

Well, maybe not quite “all” species:

“The one possible exception is the striped bass, which has not been recorded in the lake in many years... However, experts have indicated that the one possible exception, striped bass, has not become established as a *reproducing* [emphasis added] population in Devils Lake and no further stocking is planned. If any of the originally stocked individuals remain in the lake, they would now be large and would easily be excluded from outlet pipelines and machinery by fish screens already planned to cover the intake openings.” (DEIS p. 5-62)

When 13,000 “advanced” fry striped bass arrived in North Dakota in 1977, they were found to be in such poor condition that, instead of being taken to hatchery rearing ponds, they were released directly into Devils Lake. At least three have been caught since then, one by the North Dakota Game and Fish Department in netting operations and two by anglers, and all three were large fish in the 15 to 20 pound range. In fact, the North Dakota state record striped bass was a 20.75 pound fish caught at Devils Lake in 1993—just 9 years ago and 16 years after striped bass were first stocked in the lake. Therefore, even if striped bass had not become established as a

reproducing population in Devils Lake, it is clear that they became established as a surviving population.

Since 1993, ecological conditions in Devils Lake have changed dramatically, with rapidly improving water quality in the lake and high volumes and long durations of inflows from tributaries such as Mauvais Coulee. The DEIS does not consider the possibility that conditions may now have developed that are suitable for reproduction of striped bass, and if they have, what the likelihood is that they would have been detected. It is instructive to consider examples from another lake in the area where exotic fish were stocked during that same time period.

Spiritwood Lake is an approximately 600-acre lake in a “closed” basin about 60 miles south of Devils Lake. In 1971, the North Dakota Game and Fish Department stocked 4,000 white amur, or grass carp, in the lake. Although no formal monitoring has been conducted, a few grass carp were periodically reported from 1975 to 1977, and grass carp are still being reported in Spiritwood Lake two decades after they were stocked.

In the summer of 1989, the North Dakota Game and Fish Department stocked 20,000 European zanders in Spiritwood Lake (Kraus, 1989a), and another 185,000 in the adjacent East Spiritwood Lake, which now is connected with Spiritwood Lake. However, when North Dakota Game and Fish Department traps in the lake failed to capture any zander, they were thought not to have survived. Then in 1989, a fisherman caught an 8.5 inch zander in the lake (Lohman, 1990), but intensive netting by the North Dakota Game and Fish Department from 1990 through 1993 failed to turn up any more zander.

“‘We never caught even one,’ [North Dakota Game and Fish Department Chief of Fisheries Terry Steinwand] said. ‘After that third year, we thought that there weren’t any zander left in the lake. But I gave the disclaimer that we weren’t 100 percent sure, based on our netting techniques.’” (Wilson, 2001)

In August 1999, a fisherman caught and photographed a fish from the lake that appeared to be a zander, but extensive netting operations by the Game and Fish Department again failed to produce any more zander (Wilson, 2001). A fisherman caught and photographed another zander in 2000, and in June of 2000, the Department’s netting operations finally captured a 2-year-old, 3 pound, 18.5 inch zander in Spiritwood Lake.

“The DNA-tested zander taken from Spiritwood lake is a 2-year-old fish and, scientists are ‘fairly confident’, is a product of natural reproduction. Meaning: There is a chance more zander remain in the lake, or at least did a few years back.

‘For natural reproduction to occur, we know that there were at least two in Spiritwood at one time,’ Steinwand said. ‘And logic would tell you that there were more than that. But based on our inability to catch them with nets, and no reports coming in from anglers, the population is very low.’

When the zander were stocked, Steinwand said Spiritwood was a closed basin lake.

‘The only possible escape for these fish was by anglers,’ he said. ‘But things changed in 1997 when we started to see some overflow out of Spiritwood Lake’” [to the James River]. (Wilson, 2001)

If reproducing zander escaped detection in the 600-acre Spiritwood Lake for eight years despite intensive sampling efforts, and if white amur have survived in the lake in low numbers for two decades, what would be the likelihood of detecting low numbers of reproducing striped bass in the 132,000-acre Devils Lake?

The DEIS dismisses the possibility of striped bass escaping through the proposed outlet by assuming that “any of the originally stocked fish” would be excluded by fish screen already planned to cover the intake openings. Of course, the DEIS ignores the possibility that conditions in the lake might be or might become suitable for reproduction of striped bass, and it does not consider the possibility of damage to or other failure of the screens. Because the Energy and Water Development Appropriations Acts for Fiscal Years 1998 through 2001 require consultation with the International Joint Commission before construction begins on an outlet, it is instructive to consider what the International Joint Commission had to say about relying on engineering features to prevent biota transfer under the Garrison Diversion project:

“In fact, overriding everything else, as it turns out, has been the necessity that such introduction be prevented at all costs...

...

Unlike some other adverse consequences that can be minimized by additional mitigating measures or by cessation of operation of the Project, remedial measures to control unwanted exotics are oftentimes futile and, what makes it even more difficult, is that it may be some years before the full adverse impact is apparent.

...

The Board’s conclusion was that the implementation of their proposals would virtually eliminate any direct transfer by GDU of fish, fish eggs, fish larvae and fish parasites and would reduce the risk of transfer of fish diseases to the Hudson Bay Drainage Basin. The Board rated the [double 40 mesh phosphor bronze] fish screen and the closed system together, as described in the Board’s report, as a means which would be effective and feasible in meeting the objective assigned to it.

There is no question in the Commission’s mind that the Board’s recommendations greatly reduce the risk of an unintentional transfer. There would be two lines of defense, either one of which by itself might accomplish the desired result... The Commission gives great weight to the Board’s opinion that these two lines of defense will work. At the same time, the Commission must weigh the consequences to Canada if the Board is wrong. Were the potential biological consequences to the Hudson Bay ecosystem predictable in manner and extent, the Commission might accept the Board’s approach. The Board has reduced the risk of a biological ‘time bomb’ but not eliminated it. The

Commission is concerned that even with the best engineering talent available and with the best operating practices possible, the very complexity of the scheme, the immensity of the physical features, the large number of human beings involved in carrying out the responsibility, and the possible mechanical failure, what cannot happen, will happen...” (International Joint Commission, 1977)

In the case of the Pelican Lake 300 cfs outlet, the Corps proposes to rely on a single line of defense against biota transfer—a fish screen, which if it doesn’t fail over the 50-year life of the project, would exclude 15 to 20 pound adult striped bass.

Meanwhile, the Corps cites a Biota Transfer Risk Analysis which recommended that:

“...surveys for the following invasive species (at a minimum) be carried out in Devils Lake before the outlet begins operation: rusty crayfish, spiny water flea, zebra mussel, and Chinese mystery snail and relatives.” (DEIS Appendix C, p. C-77)

but no information is provided about whether the surveys will actually be conducted, what their sampling designs will be, who will pay for them, who will conduct them, and when they might be completed. Instead, the Corps proposes to proceed with the construction of a \$125 million Pelican Lake 300 cfs outlet to the Sheyenne River before knowing whether the risk of biota transfer may prevent it from ever being used.

Mythical Mitigation

According to the DEIS:

“The outlet itself would consist primarily of a buried pipeline with open channel features restricted to areas along Highway 281 north of Minnewaukan and would not require mitigation.” (DEIS Appendix C, pp. C-138-139)

However:

“Construction and operation of an outlet from Devils Lake would require the development and implementation of a mitigation plan to compensate for unavoidable adverse effects. General geographic areas of potential impact would be Devils Lake, the outlet route, the Sheyenne River, Lake Ashtabula, and the Red River. Investigations to date indicate the greatest potential for significant adverse impacts to natural resources, cultural resources, and downstream water users is associated with increased flows and water quality changes in the Sheyenne River.” (DEIS p. 5-92-93)

but:

“Many of the effects associated with operation of an outlet cannot be readily quantified.” (DEIS p. 5-96)

and:

“Because of the inability to accurately predict project impacts associated with operation, an extensive resource monitoring program will be required. The monitoring will be necessary to quantify specific impacts and identify acceptable mitigation measures.” (DEIS p. 5-93; Appendix C, p. C-139)

In view of the fact that:

“Many of the potential effects involve long-term changes to existing ecosystems that may not be readily noticeable or quantified without extensive monitoring programs.” (DEIS p. 5-96)

how does the DEIS propose that mitigation might be accomplished for the potentially severe and long-lasting impacts of operation of the proposed Pelican Lake 300 cfs outlet? These include:

- Substantial changes in the flow of the Sheyenne River resulting in up and down flows with sudden and extreme fluctuations in flow that will make it difficult for species to adapt to habitat conditions (DEIS p. 5-48),
- Increased erosion and sedimentation (DEIS p. 5-52) and changes in water quality, hydrology, geomorphology and habitat that could result in substantial changes in aquatic biota in the Sheyenne River (DEIS p. 5-53),
- Adverse influence on fish reproduction and lost-year classes of fish and decreased diversity and density of aquatic species in the Sheyenne River (DEIS p. 5-53)
- Water quality changes that would be devastating to unionids in the upper Sheyenne River (DEIS p. 5-102),
- The elimination of flow sensitive habitats, such as riffles where shallow, fast habitats predominate, in the upper Sheyenne River where stages are projected to increase up to 3 feet (DEIS Appendix C, p. C-38),
- Changes in the aquatic community in the Sheyenne River above Lake Ashtabula that would persist for many years after outlet operation ceases (DEIS Appendix C, p. D-31)
- Higher flows that may exacerbate streambank erosion and threaten farmstead structures and residences along the river (DEIS p. 4-10),
- Exacerbated flooding in the Sheyenne River that could damage agricultural property, including lands, equipment and structures (DEIS p. 5-12), and
- The increased risk of biota transfer (DEIS p. 5-56).

According to the DEIS:

“Potential mitigation features *could* [emphasis added] include acquisition of key riparian blocks of lands, plantings, erosion control, fish structures, fish stocking, and vegetation management.” (DEIS Appendix C-141)

Therefore:

“A possible mitigation plan *could* [emphasis added] include purchase and management of strategic blocks of riparian lands along the upper and lower Sheyenne River.” (DEIS p. 5-97)

“Management measures *could* [emphasis added] include plantings, erosion control structures, fish structures, and vegetation management.” (DEIS p. 5-97)

except:

“This would be implemented *after operation has ceased* [emphasis added] in order to allow the terrestrial and aquatic ecosystems to recover.” (DEIS p. 5-97)

and:

“For most pumping alternatives, pumping begins May 1, 2005 and occurs throughout the 50-yrs. For other Pelican Lake alternatives, pumping begins May 1, 2006.” (DEIS Appendix A, p. A-40)

and:

“Changes in the aquatic community would persist for many years after outlet operation ceased, especially on the Sheyenne River above Lake Ashtabula.” (DEIS Appendix D, p. D-31)

“The flow impacts due to a Pelican Lake alternative could be dramatic, particularly in the upper Sheyenne River, which is essentially isolated from recolonization sources.” (DEIS p. 5-102)

“Some of the aquatic losses would not be mitigated; for example, loss of invertebrates, loss of fish year classes, loss of wetted usable area due to increased channel width, and changed channel morphology.” (DEIS p. 5-97)

Therefore, this approach would delay mitigation of the impacts of the operation of the outlet for 50 years and would result in many significant impacts to the aquatic ecosystem of the Sheyenne River not being mitigated.

Consequently, the DEIS suggests that:

“Mitigation could also be implemented in other basins, which are also tributaries to the Red River. This would eliminate the problems associated with the continued operation of

the outlet but would shift the burden of mitigation onto others not otherwise impacted by the project.” (DEIS p. 5-97)

The DEIS neglects to mention that none of the other tributaries to the Red River are remotely similar hydrologically, morphologically and ecologically to the 460 miles of the Sheyenne River below the proposed Pelican Lake outlet, so the impacts to the Sheyenne River cannot be mitigated in other basins.

The cost estimates for these mitigation “alternatives” are based primarily on mitigation of terrestrial impacts (DEIS p. 5-97), but:

“A similar approach for estimating mitigation costs for losses to aquatic habitat is not appropriate. Two approaches would be possible for cost estimating. Some of the aquatic losses would not be mitigated; for example, loss of invertebrates, loss of fish year classes, losses of wetted usable area due to increased channel width, and changed channel morphology.

In the absence of similar guidelines for estimating aquatic mitigation costs, one approach is to assume 5 percent of the total project cost is set aside for aquatic mitigation features... Aquatic mitigation features include streambank stabilization, in-stream structures, and fish stocking. As described above some impacts would not be mitigated.

Another approach, which was used for the analysis in this report, is to assume that some aquatic mitigation could be accomplished through the management of riparian lands. Controlling erosion and providing a stable and vegetated streambank *could* [emphasis added] mitigate *some* [emphasis added] aquatic impacts. By maintaining a healthy riparian zone, aquatic resources impacts *could* [emphasis added] be minimized or populations could reestablish themselves *after the outlet has ceased operation* [emphasis added]. The acquisition of key riparian areas *could* [emphasis added] provide both terrestrial and aquatic benefits...” (DEIS p. 5-98)

It is evident, therefore, that the Corps (1) does not know what the impacts of operation of the proposed Pelican Lake 300 cfs outlet will be, (2) it has no plan for mitigating those impacts, (3) it does not know if the impacts can be mitigated, and (4) it already has written off the mitigation of impacts to aquatic resources. Faced with the daunting task of developing an effective plan to mitigate the impacts of the project, the DEIS finally dismisses the matter with the cursory statement that:

“Monitoring to determine the actual magnitude of effect is perhaps the best mitigation. Further mitigation can then be designed to address actual impacts.” (DEIS p. 5-102)

According to the DEIS:

“Areas that would require monitoring include, but may not be limited to, groundwater, erosion, sedimentation, aquatic habitat, biota transfer, water quality, riparian vegetation, cultural resources, soil salinity, surface water users, and endangered species. *Monitoring*

is a major component of the proposed mitigation package [emphasis added].” (DEIS p. 5-94)

“Extensive monitoring programs for Devils Lake and along the Sheyenne and Red Rivers are being designed and *will be proposed* [emphasis added] for implementation prior to operation of the outlet. *Potential* [emphasis added] monitoring programs include groundwater monitoring, water quality monitoring, soil salinity monitoring, establishment of long-term survey stations to assess aquatic ecosystem changes, including channel morphology, fish surveys, benthic/nektonic surveys and mussel surveys, and the establishment of vegetation survey transects along the Sheyenne River riparian corridor to monitor vegetation changes, monitoring downstream water users to determine changes in treatment procedures and costs.” (DEIS p. 5-96)

Of course:

“Monitoring would require a long-term commitment of time and funds. It is assumed that monitoring would be required for the life of the project or until agency coordination determines it is no longer necessary.” (DEIS p. 5-94)

The DEIS states that:

“Monitoring costs should be considered as part of the mitigation cost of the project.” (DEIS p. 5-96)

but it does not suggest any mechanism for assuring that funds will continue to be appropriated to cover the costs of monitoring environmental impacts over the 50-year life of the project, or to cover the costs of mitigating the impacts that are identified. Once the outlet is built and operating in 2005, the North Dakota congressional delegation certainly will have little incentive to seek appropriations to identify and mitigate adverse impacts of the project.

So, who will conduct the monitoring and implement the mitigation plan for the proposed outlet from Devils Lake?

“Coordination with Federal, State, and local agencies and interest groups will be required to implement the monitoring and mitigation program.” (DEIS p. 5-93)

What local agencies and interest groups? Certainly not the Devils Lake Joint Water Resource Board or the Devils Lake Emergency Management Committee, both of whom deny that any significant adverse downstream impacts would occur from operation of the outlet and lack the technical expertise to identify them when they do. State agencies? Certainly not the North Dakota State Water Commission which, under a directive of the Governor, is proposing to build a 300 cfs West Bay outlet and operate it with only the most perfunctory monitoring of impacts. What Federal agencies? The U. S. Fish and Wildlife Service? It is not the Service’s responsibility to monitor and mitigate the environmental impacts of other Federal agencies’ projects.

Responsibility for monitoring and mitigation of the environmental impacts of the Corps' proposed Pelican Lake 300 cfs outlet rests squarely the Corps, and a revised DEIS should recognize that and deal with that responsibility in a substantive and straightforward manner.

But, what about mitigating the impacts of biota transfer?

“No mitigation feature can be said to be 100 percent effective in eliminating the risk of biota transfer.” (DEIS p. 5-56)

So, what does the DEIS propose?

“To minimize the risks of transfer of undesirable biota into waters downstream from the outlet, monitoring and outreach programs *could* [emphasis added] be implemented. These could include monitoring water chemistry at the outlet, at Lake Ashtabula, and at the Sheyenne River's mouth at a minimum.” (DEIS p. 5-100)

But, of course, monitoring water chemistry will do nothing to detect undesirable biota or mitigate the impacts of their introduction to the Hudson Bay Basin. Anything else?

“Biotic monitoring programs *could* [emphasis added] also be enacted to create an alert system that would be triggered if exotic species are found in Devils Lake or in the Sheyenne River. These programs *could* [emphasis added] include public education regarding boat and trailer cleaning and identification of exotic fish species (e.g., zander, grass carp), and surveillance of boats and trailers by government officials at public launch sites.” (DEIS p. 5-100)

Of course, the absurdity of suggesting that a monitoring program would be effective in detecting even large exotic species such as zander and grass carp in the 132,000-acre Devils Lake in time to prevent their being transferred by the outlet to the Hudson Bay Basin is demonstrated by the fact, pointed out above, that zander were undetected in the 600-acre Spiritwood Lake for 8 years despite intensive sampling by the North Dakota Game and Fish Department, and grass carp have survived in the lake in very low numbers for two decades.

Furthermore, monitoring simply *may* detect the presence of undesirable biota, but it does nothing to prevent their transfer—particularly if they already have reached the Sheyenne River—or to mitigate the impacts of such a transfer. As the International Joint Commission pointed out:

“... remedial measures to control unwanted exotics are oftentimes futile and, what makes it even more difficult, is that it may be some years before the full adverse impact is apparent.” (International Joint Commission, 1977)

It is abundantly clear from the DEIS that the Corps not only does not have a mitigation plan for the proposed Pelican Lake 300 cfs outlet, but it then claims that monitoring is a major component of the project's mitigation “package” when it does not have a monitoring program, either, or know how it would be funded or who would conduct it—or even if it would be effective in identifying impacts.

There could not be a more clear or blatant violation of the mandate of the National Environmental Policy Act for Federal agencies to know the impacts of their actions before taking them.

U. S. Army Corps of Engineers Environmental Operating Principles

On March 26, 2002, Chief of Engineers Lt. General Robert Flowers announced new Corps of Engineers Environmental Operating Principles to guide the Corps in all of its works:

“The Principles:

Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.

Recognize the interdependence of life and the physical environment.

Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.

Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.

Continue to accept corporate responsibility under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems. [Emphasis added]

Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full cycle of our processes and work.

Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environmental impacts of our work.

Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation’s problems that also protect and enhance the environment.”

As the preceding comments document, the DEIS repeatedly violates every one of these principles. Therefore, a revised DEIS should discuss, substantively and specifically, how it has been modified to comply with these principles in each of the areas outlined in these comments.

Conclusions

1. The DEIS is based on a flawed scoping process that discouraged and frustrated public participation.

2. The DEIS inappropriately employs tiering of the analysis of the environmental impacts of the proposed Pelican Lake 300 cfs outlet in order to segment the analysis of those impacts and avoid their disclosure until after the decision has been made as whether to build the project.
3. The DEIS fails to consider the cumulative impacts of other related and reasonably foreseeable projects, including the Red River Valley Water Supply Project, an inlet to deliver Missouri River water to Devils Lake, and the State of North Dakota's "temporary" emergency outlet from Devils Lake to the Sheyenne River.
4. The Corps lacks congressional authorization to complete and operate an outlet from Devils Lake to the Sheyenne River.
5. The proposed Pelican Lake 300 cfs outlet would have severe and long-lasting adverse impacts on the Sheyenne River under moderate future conditions. Although, the DEIS does not describe the environmental impacts of the proposed Pelican Lake 300 cfs outlet under the "wet future scenario," they would be substantially more severe.
6. All Devils Lake outlet alternatives discussed in the DEIS would either be ineffective in preventing the continued rise of the lake or they would cause unacceptable downstream impacts, and none of the outlet alternatives have positive benefit/cost ratios under standard economic analyses. Therefore, the outlet alternatives are neither technically sound nor economically justified.
7. The proposed Pelican Lake 300 cfs outlet is estimated to cost \$125 million, but because the lake would continue to rise another 10 feet under the "wet future scenario" even with the outlet, an additional \$300-400 million would still have to be invested in infrastructure protection measures, bringing the total cost of this alternative to \$425-\$525 million.
8. The "wet future scenario" upon which the proposed Pelican Lake 300 cfs outlet is justified is a manufactured set of conditions created to result in just enough precipitation to cause Devils Lake to overflow without the outlet, but not overflow with the outlet. This artificial scenario has no basis in reality and has a zero probability of occurring.
9. The DEIS suggests that because of the low probability that the conditions will occur that are necessary to justify the proposed Pelican Lake 300 cfs outlet, the outlet should be viewed as an insurance policy rather than as an investment. However, the outlet neither guarantees that the lake will not continue to rise and overflow nor provides compensation if it does. Therefore, it should be more accurately viewed as a \$125 million lottery ticket with virtually no chance of winning.
10. There is no evidence in the geologic record to support speculation that an overflow of Devils Lake would result in the natural outlet eroding down 9 feet and releasing 6,000 cfs of water and 400,000 cubic yards of sediment into the Sheyenne River. Moreover, if the level of Devils Lake were to approach the overflow elevation, measures would be implemented to prevent erosion of the outlet.

11. The DEIS fails to address wetland drainage in the Devils Lake Basin and its contribution to the rise of the lake, it significantly underestimates the potential for wetland restoration in the upper Devils Lake Basin to reduce flooding problems at the lake, and it disregards the effects of continuing wetland drainage in reducing the efficacy of the proposed Pelican Lake 300 cfs outlet and other publicly funded measures to deal with flooding problems at Devils Lake.
12. The DEIS significantly inflates the value of non-urban lands around Devils Lake that already have been flooded and, by implication, those that would be flooded if the lake continues to rise with or without the outlet. The result is exaggeration of the benefits of preventing those losses.
13. Although flooding at Devils Lake has resulted in personal hardships for those residents living adjacent to the lake, the influx of some \$350 million in Federal funds and the thriving tourist industry based on the outstanding sport fishery that has developed at Devils Lake, combined with generous compensation of affected homeowners by Federal agencies, have substantially blunted the economic impacts of the rise of the lake.
14. The potential for transfer of foreign biota from Devils Lake to the Hudson Bay Basin by an outlet from Devils Lake is a major issue, and its resolution is complicated by the paucity of information on the biota of Devils Lake, the potential for introduction of new damaging species into Devils Lake, and the absence of effective measures to mitigate the impacts of biota transfer if it should occur.
15. The DEIS fails to provide a detailed discussion of the environmental impacts of the operation of the proposed Pelican Lake 300 cfs outlet, it acknowledges that it may not be possible to mitigate some impacts to aquatic resources, it does not include a plan to mitigate impacts that already have been identified, and it does not include a plan to monitor the impacts of the project and implement mitigation measures for those that are identified in the future.
16. The DEIS violates each of the Corps of Engineers' recently released "Environmental Operating Principles."
17. The DEIS is procedurally faulty, conceptually flawed, technically deficient and legally defective. The inadequacies are so fundamental and the deficiencies are so pervasive that the Corps has no recourse under the law except to withdraw the DEIS and begin the NEPA process anew to produce an environmental impact statement that complies with both the letter and the spirit of the National Environmental Policy Act.
18. Despite its profound shortcomings, the DEIS is forced to acknowledge the inescapable conclusions that:

"The outlet plan that has been preliminarily selected for design is not economically justified using methods that would determine the expected benefits by producing probability-weighted benefits and costs." (DEIS p. 1-S-7)

“...implementation of the Continued Infrastructure Protection within the basin is economically justified, and may in fact represent the most economically defensible approach to flood damage management at the lake.” (DEIS p. 4-14)

REFERENCES

- Anonymous. 2000. City sponsors impact report. Devils Lake Journal. March 28, 2000.
- Associated Press. 1982. Disaster label sought for Devils Lake. The Forum. Fargo, North Dakota. February 2, 1992.
- Associated Press. 1991. Survey: Farmers' ethics decline. The Jamestown Sun. Jamestown North Dakota. January 8, 1991.
- Associated Press. 2001a. Devils Lake expected to remain steady. The Jamestown Sun. Jamestown, North Dakota. December 19, 2001.
- Associated Press. 2001b. Devils Lake outlet plan to be phased in. The Jamestown Sun. Jamestown, North Dakota. November 14, 2001.
- Associated Press 2001c. Farm real estate up 2 percent. The Jamestown Sun. Jamestown, North Dakota. August 3, 2001.
- Associated Press. 2002a. Impact study shows nothing to derail plan. The Jamestown Sun. Jamestown, North Dakota. March 1, 2002.
- Associated Press. 2002b. Devils Lake outlet proposal may hinge on 'wet cycle.' Associated Press Newswires. March 5, 2002.
- Burtz, H. 1985. Comparison of Stump Lake, Devils Lake water levels shows effects of drainage. The Devils Lake Daily Journal. Devils Lake, North Dakota. February 26, 1985.
- Condon, P. 1997. Panel approves \$5 million for Devils Lake outlet. The Forum, Fargo, North Dakota. September 26, 1997.
- Gilmour, D. 2000. So long, Churchs Ferry. The Forum. Fargo, North Dakota. April 2, 2000.
- Grier, J. W. and J. D. Sell. 1999. Potential of introducing aquatic nuisance species to North Dakota by boats. Report to the North Dakota Game and Fish Department. North Dakota State University Department of Zoology, Fargo, North Dakota. 38 pp.
- Grosz, T. 2001. Defending out wildlife heritage. Johnson Books, Boulder, Colorado. 384 pp.
- International Joint Commission. 1977. Transboundary Implications of the Garrison Diversion Unit. An IJC Report to the Governments of Canada and the United States. 146 pp. plus appendices.
- Karus, S. 1989a. Third try to introduce species: zander arrive at Spritwood Lake. The Sun. Jamestown, North Dakota. June 9, 1989.
- Kraus, S. 1989b. Third try apparently fails: no sign of zanders in lake. The Jamestown Sun. Jamestown, North Dakota. September 19, 1989.

- Lohman, J. 1990. Zander may remain on hold. The Forum. Fargo, North Dakota. December 16, 1990.
- Ludden, A. P., D. L. Frink and D. H. Johnson. 1983. Water storage capacity of natural wetland depressions in the Devils Lake Basin, North Dakota. Journal of Soil and Water Conservation 38: 45-48.
- Murphy, E. C., A. M. K. Fritz and R. F. Fleming. 1997. The Jerusalem and Tolna Outlets in the Devils Lake Basin, North Dakota. North Dakota Geological Survey. Bismarck, North Dakota. Report of Investigation No. 100. 36 pp.
- North Dakota State Water Commission. 2001. Devils Lake (Peterson Coulee) Outlet, Request for Proposal. Bismarck, North Dakota. 4 pp.
- Pearson, G. L. 1983. Statement of the North Dakota Chapter of The Wildlife Society submitted at the U. S. Army Corps of Engineers public meeting on water related problems in the Devils Lake Basin. Devils Lake, North Dakota. June 22, 1983. 12 pp.
- Pearson, G. L. 1985. Draining the great marsh. USA Today. November, 1985. pp. 83-89.
- Pearson, G. L. 1998. Letter to Robert Anfang, St. Paul District, U. S. Army Corps of Engineers, 190 5th Street East, St. Paul, Minnesota. March 30, 1998. 9 pp.
- Pearson, G. L. 2001. Letter to District Engineer, U. S. Army Corps of Engineers, 190 5th Street East, St. Paul, Minnesota. April 8, 2001. 7 pp.
- State Engineer. 1912. Fifth biennial report of the State Engineer to the Governor of North Dakota for the years 1911-1912. Public Document No. 21. Knight Printing Company, State Printers. Fargo, North Dakota.
- TPI Consultants. 1976. Devils Lake Basin Advisory Committee, Study Report, Volume 1. Devils Lake, North Dakota. 235 pp.
- U. S. Army Corps of Engineers. 1980. Flood control reconnaissance report, Devils Lake, North Dakota. Department of the Army, St. Paul District. 39 pp.
- U. S. Army Corps of Engineers. 1983. Devils Lake Basin, North Dakota, pre-reconnaissance evaluation report. St. Paul District. 51 pp.
- U. S. Army Corps of Engineers. 1992. Devils Lake Basin, North Dakota, reconnaissance report. St. Paul District. 119 p. plus appendices.
- U. S. Army Corps of Engineers. 1996. Emergency Outlet Plan, Devils Lake, North Dakota. St. Paul District. 25 pp.
- U. S. Army Corps of Engineers and North Dakota State Water Commission. 1998. Devils Lake Emergency Outlet Newsletter, Issue #1. 6 pp.
- U. S. Army Corps of Engineers and North Dakota State Water Commission. 2001. Devils Lake Study Newsletter, Issue #4. 6 pp.

- U. S. Fish and Wildlife Service. 1997. Devils Lake Feasibility Study, Lake Stabilization, Devils Lake, North Dakota, Planning Aid Letter and Substantiating Report. North Dakota Field Office, Bismarck, North Dakota. 45 pp. plus appendices.
- van der Kamp, G., W. J. Stolte and R. G. Clark. 1999. Drying out of small prairie wetlands after conversion of their catchments from cultivation to permanent brome grass. *Journal of Hydrological Sciences*. 44: 387-397.
- WEST Consultants, Inc. 2001. Final Report, Devils Lake Upper Storage Evaluation. Prepared for: St. Paul District, U. S. Army Corps of Engineers. San Diego, California. 79 pp.
- Wiche, G. J., A. V. Vecchia, L. Osborne and J. T. Fay. 2000. Climatology and potential effects of an emergency outlet, Devils Lake Basin, North Dakota. U. S. Department of the Interior, U. S. Geological Survey, Fact Sheet FS-089-00. 4 pp.
- Wilson, R. 2001. Zander have resurfaced in Spiritwood Lake. *The Bismarck Tribune*. Bismarck, North Dakota. March 9, 2001.
- Zaleski, J., Jr. 1975. Excess water plagues Devils Lake residents. *The Jamestown Sun*. Jamestown, North Dakota. August 14, 1975.
- Zaleski, J. Jr., 1981. High water table problem at new industrial park. *The Devils Lake Journal*. Devils Lake, North Dakota. August 18, 1981.

From: Jonathan Bry [jonathan.bry@sierraclub.org]
Sent: Tuesday, May 07, 2002 3:00 PM
To: Anfang, Robert A; Loss, David C
Subject: RE: Comments on Draft EIS for Proposed Devils Lake Outlet

May 7, 2002

US Army Corps of Engineers
Attn: PP-PM-E (Anfang)
190 5th Street East
St Paul MN 55101-1638

The Dacotah Chapter of the Sierra Club is very concerned about the fact that the Army Corps of Engineers' proposed outlet would drain Devils Lake water into the Sheyenne River. The increased amount of water in the Sheyenne River and the Red River will exacerbate high water problems already being experienced in those watersheds. Furthermore, the increase in the saline content of the water and the introduction of new biota will permanently affect the health of these rivers.

An increase in flow in the Sheyenne River will increase the desire for bank stabilization which constricts the natural processes of the river. The effects of riprap are detrimental to the health of the river and the appearance of rock riprap destroys natural qualities of the river. Removing trees from the banks of Sheyenne River to make room for riprap is not acceptable. Many people canoe the Sheyenne River to enjoy the natural beauty of the river which will no longer exist if the banks are stabilized with rock riprap. The sandy banks in areas of the Sheyenne should remain as they are. Higher river levels will jeopardize the survival of the 100+ year old oak savanna forest that is irreplaceable and rare in North Dakota.

Engineering projects are all too often used to try to fix problems associated with prior engineering mistakes. For example, banks on the Missouri River have been stabilized in order to reduce erosion caused by the release of water from below the dam which does not carry a sediment load. Both the natural beauty and the health of the Missouri River have been compromised. We should not make the same mistakes on the Sheyenne River.

It would make more sense to undo the projects that have led to the problems that we face today and let natural processes do the work for us. Closing the wetland drains in the Devils Lake Basin will reduce the flow of water into the lake. Furthermore, retaining water in wetlands will allow moisture to naturally evaporate, slowly filter into the ground, and be transpired by plants.

Rather than spending millions of dollars building the outlet that will do little to lower the level of Devils Lake but will cause extensive environmental damages and destroy irreplaceable habitat along the

Sheyenne River, we should focus on correcting the problems that have caused the lake levels to increase in the first place. The cost of this kind of project will be much higher than anticipated, both economically and environmentally. Therefore, we oppose building and outlet from Devils Lake.

Sincerely,

Jonathan Bry
Conservation Coordinator

A hard copy is in the mail

From: Ken Midkiff [ken.midkiff@prodigy.net]
Sent: Tuesday, May 07, 2002 3:16 PM
To: David C Loss
Subject: Comments on Devil's Lake

May 7, 2002

Colonel Robert L. Ball
District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Colonel Ball:

I hereby submit the following brief comments on the draft Integrated Planning Report and Environmental Impact Statement for Devil's Lake, North Dakota, Outlet Study.

- The use of the "wet scenario" can not be justified – there is simply no such documentation in the years since records have been kept. It is, however, the only way the project shows a Benefit Cost Ratio greater than one. It is a huge leap of faith to base the expenditure of millions of public dollars on such a dubious premise;
- In recent months the lake level has fallen and is likely to continue to fall without the outlet;
- The downstream environmental and habitat impacts of outlet operation are inadequately addressed; and,
- The issue of biota transfer requires additional study prior to making conclusions. The transfer of harmful biota has potential for catastrophic results for downstream interests, including Minnesota and Canada. It is therefore alarming that the Corps would consider moving forward given the lack of adequate information.

Any one of these issues would stand alone as a reason to not proceed with the Devils Lake Outlet at this time. These four overarching issues considered together should give anyone pause. The Corps should not proceed with this project until such time it can prove the expenditure is justified and the operation of an outlet would not have a negative impact on downstream interests.

Sincerely,

Ken Midkiff

Director, Sierra Club Clean Water Campaign

Ken Midkiff
Director, Sierra Club Clean Water-
CAFO Campaign
1007 N. College Ave.
Columbia, MO 65201

Ph: 573-256-5705
FAX: 573-256-8816

"I've always been crazy -- it's kept me from going insane." Waylon Jennings

From: Noah Hall [nhall@mncenter.org]
Sent: Tuesday, May 07, 2002 5:06 PM
To: Loss, David C
Subject: MCEA Comments on Devils Lake

Via Electronic Mail

TO: District Engineer, St. Paul District, U.S. Army Corps of Engineers

C/O: Dave Loss, david.c.loss@usace.army.mil

Re: Comments of the Minnesota Center for Environmental Advocacy on the Draft Integrated Planning Report / Environmental Impact Statement for the Devils Lake, North Dakota, Study.

The Minnesota Center for Environmental Advocacy (³MCEA²) is pleased to submit the following comments on the Corps of Engineers' Draft Integrated Planning Report / Environmental Impact Statement for the Devils Lake, North Dakota, Study (³DEIS²). The DEIS has numerous flaws and deficiencies, as outlined in more detail in our comments. Nonetheless, MCEA agrees with the key conclusion of the DEIS: ³The outlet plan that has been preliminarily selected for design [the Pelican Lake 300 cubic feet per second outlet] is not economically justified using methods that would determine the expected benefits by producing probability-weighted benefits and costs.² (DEIS p. 1-S-7)

Based on the environmental and economic research and analysis contained in the DEIS, it is clear that the Pelican Lake outlet would have significant environmental impacts and the cost of the plan is not justified by the likely benefits. Further, other alternatives, notably increasing upper basin water storage through restoration of wetlands, would substantially reduce the problems associated with rising lake levels, while at the same time bring an environmental benefit at a reduced cost to taxpayers.

MCEA is concerned about the environmental and economic problems associated with rising water levels in Devils Lake, most notably the impact on the surrounding communities. The complexity of these problems, as well as the significant public expenditures and potential environmental impacts implicated in the Pelican Lake outlet plan, warrant more detailed and thorough analysis. MCEA looks forward to continuing to work with the Corps and other stakeholders to address these problems in the most cost-efficient and environmentally responsible manner.

Noah Hall
Assistant Director
Minnesota Center for Environmental Advocacy
26 E. Exchange Street, Suite 206
St. Paul, Minnesota 55101
(651) 287-4864
www.mncenter.org

Note: Comments are attached in MS Word and copied in text below:

Comments of the Minnesota Center for Environmental Advocacy on
the Draft Integrated Planning Report / Environmental Impact Statement
for the Devils Lake, North Dakota, Study

Submitted to U.S. Army Corps of Engineers
District Engineer, St. Paul District

Introduction

The Minnesota Center for Environmental Advocacy (³MCEA²) submits the following comments on the Corps of Engineers¹ Draft Integrated Planning Report / Environmental Impact Statement for the Devils Lake, North Dakota, Study (³DEIS²). While MCEA recognizes that the Corps did grant a short extension for comments on the DEIS, the brief time period simply does not allow for a thorough technical analysis of the complex issues presented in the report. Thus, MCEA's comments focus on the general flaws in the Corps¹ analysis and the areas of controversy, unresolved issues, and conclusions. MCEA also supports and expressly incorporates by reference the submitted comments of the National Wildlife Federation, the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, the Minnesota Department of Health, and the Joint Canadian Comments (submitted by Environment Canada, Fisheries and Oceans Canada, and Manitoba Conservation).

The DEIS has numerous flaws and deficiencies, and is inadequate for satisfying the requirements of the National Environmental Policy Act (³NEPA²). The flaws and deficiencies include:

- (1) failure to adequately address issues identified in the EIS scoping document and of concern based on public comments;
- (2) inappropriate tiering of environmental impacts and failure to adequately consider cumulative impacts;
- (3) failure to adequately consider the causes of the rising water levels in Devils Lake;
- (4) failure to adequately consider environmental impacts of the Pelican Lake outlet;
- (5) failure to adequately consider all reasonable alternatives;
- (6) failure to use the best scientific analysis in considering the ³wet future scenario.²

Despite the overall inadequacy of the DEIS, it does reach a key conclusion supported by MCEA: ³The outlet plan that has been preliminarily selected for design [the Pelican Lake 300 cubic feet per second outlet] is not economically justified using methods that would determine the expected benefits by producing probability-weighted benefits and costs.² (DEIS p. 1-S-7).

Given the inadequacy of the DEIS, and the environmental impacts and

cost-benefit ratio of the Pelican Lake outlet, MCEA recommends that the Corps continue to study and evaluate alternatives to address the fluctuating water levels in Devils Lake, notably upper basin water storage and wetland restoration, along with continued structural protections.

1. The DEIS fails to adequately address issues identified in the EIS scoping document and of concern based on public comments.

³Draft environmental impact statements shall be prepared in accordance with the scope decided upon in the scoping process.² 40 CFR 1502.9(a). The Corps¹ failure to adequately address issues identified in the EIS scoping process, coupled with the failure to allow for and incorporate public comment, are indicative of the haste with which the process appears to be proceeding. While the problems of fluctuating water levels are pressing, a rushed and flawed process not only violates NEPA, but fails to give the public the best solution for the least cost and environmental impacts.

The scope of review should include ³significant environmental issues deserving of study.² 40 CFR 1500.4(g). Two areas in particular warrant further discussion and analysis. First, the Corps must fully consider whether the Pelican Lake outlet and any other alternatives comply with the Boundary Waters Treaty of 1909. Based on the limited information contained in the DEIS, it appears that the Pelican Lake outlet would in fact violate the Boundary Waters Treaty, and this fact alone could end consideration of that alternative.

Second, the DEIS failed to adequately consider wetland loss and drainage, an issue that was raised in the scoping process (DEIS Appendix C, p. C-102). As discussed further below, the loss of wetlands in the Devils Lake drainage basin is a significant cause of the fluctuating water levels, as the wetlands provide natural water storage benefits. Not only must restoration of upper basin wetlands as an alternative be considered more fully, but the impact of the loss of such wetlands on the water levels in Devils Lake must be further analyzed.

2. The DEIS inappropriately tiers environmental impacts and fails to adequately consider cumulative impacts.

The DEIS improperly defers a complete analysis of the environmental impacts of operating the Pelican Lake outlet, stating that ³supplemental NEPA documentation will be prepared as required.² (DEIS p. 1-S-2). However, tiered analysis of the environmental impacts of operating the Pelican Lake outlet is inconsistent with NEPA and the Council of Environmental Quality Regulations.

The deferral of complete analysis regarding the Pelican Lake outlet is compounded by the failure to adequately consider cumulative impacts. To study the environmental impacts of the rising water levels and the Pelican Lake outlet, and yet ignore the environmental impacts of lowering water levels, potential inlet projects, and the North Dakota emergency outlet, provides the public with skewed information. Such a fractured analysis

violates NEPA, and provides the public with limited and isolated information.

3. The DEIS fails to adequately consider the causes of the rising water levels in Devils Lake.

Devils Lake has risen over 25 feet in the past 8 years, due to both natural cycles and human influences. The DEIS analysis of the causes of the fluctuating water levels is wholly inadequate. More study is required to better understand the complex and interrelated natural and human causes of the rising water levels. Natural weather cycles (both short- and long-term), changes in surrounding land use, drainage of wetlands and other natural water storage features in the drainage basin, and climate-changing emissions of carbon dioxide are among the many factors causing the lake levels to rise and that warrant further study.

The Corps¹ analysis of lake level trends and alternatives for addressing rising lake levels must begin with a thorough analysis of the causes of the problem. Simply correlating lake levels to weather cycles is superficial and misleading. First, the analysis does not adequately address the underlying problems of changes in land use and loss of wetlands in the surrounding basin. The comments of the National Wildlife Federation (NWF) provide a detailed analysis of the impact of the loss of wetlands in the basin on fluctuating water levels. Using the EIS scoping document and NWF comments as a starting point, a more thorough analysis of the impact of wetland loss and drainage must be undertaken.

Second, a cursory ³blame it on the weather² approach completely ignores the role of human carbon dioxide emissions in causing changes in climate. The connection between atmospheric carbon dioxide and rising average global temperatures has been established in the broad scientific community and cannot be ignored in the DEIS. Further, global climate change may result in heavy snows, increased rainfall, and increased flooding in local climates. Curbing industrial carbon dioxide emissions and minimizing the human cause of climate change would have direct and quantifiable effects on both past and future climate conditions which influence water levels in Devils Lake. If the Corps¹ environmental analysis is going to begin by blaming the problem on the weather, it must acknowledge the impact of industrial carbon emissions on the weather, and consider alternatives that address this particular cause of the problem. For a more thorough discussion of this issue, please see the attached report, ³Playing with Fire - Climate Change in Minnesota² prepared by Minnesotans for an Energy Efficient Economy, and the series of reports by the Intergovernmental Panel on Climate Change entitled ³Climate Change 2001² (available online at www.ipcc.ch and incorporated into these comments by reference.).

4. The DEIS fails to adequately consider environmental impacts of the Pelican Lake outlet.

The environmental and economic research and analysis contained in the DEIS makes clear that the Pelican Lake 300 cubic feet per second ³preliminarily

selected outlet plan² would have significant environmental impacts, including transfer of biota (particularly exotic species), deterioration of water quality, and fluctuations in water quantity.

MCEA is particularly concerned about the environmental impacts to the Red River of the North. As noted in more detail in the comments of the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, and the Minnesota Department of Health, the increased phosphorous and sedimentation could deteriorate this treasured river. Further, the risk of invasive species not only poses a major environmental impact, but could result in cessation of the outlet by legal action.

5. The DEIS fails to adequately consider all reasonable alternatives.

Just as the DEIS provides an inadequate analysis of the causes of the problem of rising water levels, it provides an equally inadequate consideration of reasonable alternatives to solve the problem. Consideration of a reasonable range of alternatives is the ³heart² of an EIS, ³sharply defining the issues and providing a clear basis for choice among options by the decision-maker and the public.² 40 CFR 1502.14. The presentation of alternatives must be undertaken in good faith and is not to be employed to justify a decision already reached. *Citizens Against Toxic Sprays Inc. v. Bergland*, 428 F. Supp. 908 (D. Or. 1977). The purpose of this requirement is ³to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.² *Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974).

All reasonable alternatives must receive a ³rigorous exploration and objective evaluation ³, particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects.² 40 CFR 1500.8(a)(4). The analysis of the alternatives must be ³sufficiently detailed to reveal the agency's comparative evaluation of the environmental benefits, costs and risks of the proposed action and each reasonable alternative.² *Id.*; see also 40 CFR 1502.14(a); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223 (9th Cir. 1988), cert denied, 489 U.S. 1066 (1988).

As noted in the National Wildlife Federation's analysis, restoration of wetlands in the upper basin would provide sufficient water storage capability to meet the need of the local communities around Devils Lake. Upper basin water storage with restored wetlands would also bring other environmental and economic benefits, such as increased waterfowl and tourism revenues. Equally important, NWF's analysis demonstrates that this alternative would come at a reduced cost to taxpayers.

In addition to restoration of upper basin wetlands, incremental structural protection is another cost-efficient and less impacting alternative. As noted in the DEIS, ³Implementation of the Continued Infrastructure Protection within the basin is economically justified, and may in fact represent the most economically defensible approach to flood damage

management at the lake.² (DEIS p. 4-14)

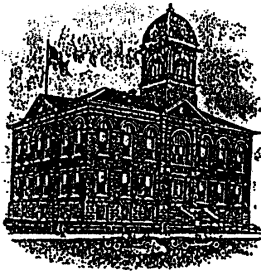
6. The DEIS fails to use the best scientific analysis in considering the³wet future scenario.²

As noted by several other commentors, the ³wet future scenario² is little more than a fantasized compilation of various occurrences designed to create the semblance of justification for the Pelican Lake outlet. The Corps¹ reliance on this scenario and the underlying data violates its duty to use high quality information and accurate scientific analysis, as required by 40 CFR § 1500.1(b). The Corps also failed, in presenting the wet scenario, to disclose ³any responsible opposing view,² as required by 40 CFR § 1502.9(b).

Even with the mythical scenario, the cost of the Pelican Lake outlet to taxpayers is not justified by the likely benefits, as the benefit-cost ratio of the best outlet plan incorporating probabilities of occurrence is 0.37.

Conclusion

The DEIS is inadequate and fails to comply with NEPA. Nonetheless, MCEA agrees with the fundamental conclusion that the costs of the Pelican Lake outlet outweigh the benefits.



NEW ROCKFORD, NORTH DAKOTA

Darlene Haugen, Auditor
Mary Ripplinger, Deputy

Commissioners:
Lorraine Allmaras
Dick Turcotte
Earl Sauer

April 17, 2002

District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St Paul, Minnesota 55101-1638

RE: Study for the Devils Lake Outlet - North Dakota

We cannot support this resolution at the present time for the following reasons:

- 1) The Sheyenne River flows from the west to the east across the major portion of Eddy County.
- 2) We have many bridges and other structures on the river.
- 3) We need to know the impact a Devils Lake outlet would have on these structures. Also, if our roads could be damaged and need to be raised or abandoned. Would river banks erode along with segmentation and cause jams at our bridges or destroy them?
- 4) Increased maintenance due high flows.

Sincerely,

Eddy County Commissioners
524 Central Avenue
New Rockford, North Dakota 58356

District Engineer
St. Paul District, Corps of Engineers
Attn: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

May 3, 2002

RE: Devils Lake, ND Integrated Planning Report and Environmental Impact Statement

Dear Sir:

After reviewing the above mentioned report, the Nelson County Commissioners would like to extend continued support of the proposed outlet plan. Please see attached Resolution To Whom It May Concern regarding the meeting held on March 5, 2002 signed by Dan Marquart, Chairman, Nelson County Board of Commissioners.

Nelson County is closely affected by the continued rise of Devils Lake. With the wet cycle since 1993, Nelson County has declared 10 disaster declarations due to damages to the transportation infrastructure and personal property throughout the county. Water has also ponded in any low-lying area causing inundation and inaccessibility to cropland. In 2001 over 2,870.7 acres of land were lost to inundation, equaling \$13,208.00 in lost tax revenue for just one year. The loss of agricultural dollars has had a direct effect on the local economy. (Statistics provided by Michelle Linstad, Nelson County Tax Equalization Director)

Based on the National Weather Service predictions through September 15, 2002, there is a 50% chance that the Devils Lake level will rise about 1447.1 feet. Other forecasts site probabilities that a 20% probability of exceeding 1447.3 and a 10% probability of exceeding 1447.6 feet. Basically, any increase in Devils Lake, means additional impact to Nelson County. According to the USGS 5-Box Model Elev-Vol-Area Relationships, a one-foot increase in elevation from the current level 1412.15 feet of Stump Lake increases the volume of water by 7,888 acre-ft and the area by 107 acres. A two-foot rise from the current level increases the volume of water by 15,884 acre-ft and the area by 214 acres. Stump Lake had been slowing rising without the Devils Lake water, and with the channel allowing Devils Lake water access to Nelson County and Stump Lake may impact the transportation infrastructure for providing ambulance and fire service to people in the southwestern and central portion of Nelson County. The roads threatened would be county road 23 and county road 15. The rising Stump Lake threatens three homes and access may pose a problem for additional residences as the driveways to their homes may be threatened. The homeowners who have flood insurance have not been able to settle with their insurance companies due to specific policy requirements.

As Stump Lake continues to rise additional acres of woodland will be lost to the water. The county owned park would be threatened and the historical pavilion may succumb to the higher water elevation. The water systems that provide water to the Park and to the city of Lakota may be threatened as Stump Lake continues to rise. Lakota City Water Line is buried in the right of

way of State Highway 1. It was not designed to be under significant acres of water and if the line is infiltrated the city couldn't afford a new water treatment plant to cleanse the contaminants.

With these factors in mind, the Nelson County Commissioners express their support of the implementation of the Devils Lake outlet as sited in the Corps of Engineers Draft Integrated planning Report/ Environmental Impact Statement for the Devils Lake, ND Study.

Sincerely,

Dan Marquart, Chairman
Nelson County Board of Commissioners
Emergency Manager

Cindy Ritteman, CEM
Nelson County Certified

RESOLUTION TO WHOM IT MAY CONCERN

In support of a State approved solution to the Devils Lake flooding crisis.

WHEREAS, Devils Lake has experienced steadily rising water levels since the late 1970's with pronounced increases occurring since 1993; and

WHEREAS, geologic evidence shows the water level fluctuations at Devils Lake are primarily associated with, and the result of, climatic swings; and

WHEREAS, climatologists have concluded that the current wet cycle may continue for the next ten or more years; and

WHEREAS, Devils Lake has already risen 24 feet since 1993 flooding about 75,000 deeded acres and requiring a public investment of nearly \$400 million to build dikes, relocate hundreds of homes, maintain the region's transportation system and protect other infrastructure; and

WHEREAS, Devils Lake, at its current elevation of 1,447.1 feet above mean sea level, is less than 12 feet below its natural spill elevation to the Sheyenne River at which point it will cover almost 300,000 acres, about 250,000 acres or 390 square miles more than it did in 1993; and

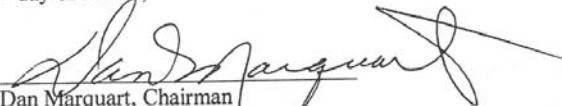
WHEREAS, erosion at Tolna Coulee, Devils Lake's natural outlet, could release up to 2 million acre-feet of water, about four times the volume of the 1997 flood at Lisbon, from Devils Lake to the Sheyenne and Red Rivers; and

WHEREAS, analysis by the State of North Dakota and the U.S. Army Corps of Engineers, including a federal EIS, is showing that construction of a carefully managed outlet from the western portions of Devils Lake to the Sheyenne River can be effective in helping to protect the health, safety and economic well being of the Devils Lake region at minimal risk to downstream interests.

NOW, THEREFORE, BE IT RESOLVED that the Nelson County Commission at a meeting held on March 5, 2002, does hereby express its support for the implementation of a plan approved by the State of North Dakota to help control flood damages in the Devils Lake Basin and protect property, water quality and other values of the Sheyenne and Red Rivers; and

BE IT FURTHER RESOLVED, that we pledge to work with the people of Devils Lake, the State of North Dakota and the federal government to attain relief from this ongoing flood disaster as soon as practicable.

Dated at Lakota, North Dakota, this 5th day of March, 2002.


Dan Marquart, Chairman
Nelson County Board of Commissioners

People to Save the Sheyenne

James Stevens, President
4423 Co Rd 21
Valley City, ND 58072
701-845-3020

May 6, 2002

Dave Loss
Project Manager, Devils Lake PM-A
U. S. Army Corps of Engineers
190 Fifth Street East
St. Paul, MN 55101-1638


Dear Mr. Loss:

Thank you for the opportunity to provide comments on the *Draft Integrated Planning and Environmental Impact Statement* (EIS) being developed to address flooding problems at Devils Lake, North Dakota.

The attached comments were developed by various members of People to Save the Sheyenne and consolidated for this presentation.

It is our conclusion that it would be inappropriate at this time to proceed with design and construction until the questions and deficiencies described here-in are thoroughly and scientifically addressed.

Sincerely,


James Stevens

EVALUATION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR DEVILS LAKE, NORTH DAKOTA

Prepared by

People to Save The Sheyenne

Introduction

The U.S. Army Corps of Engineers (COE) begins the analyses of alternatives for the proposed Devils Lake project following standard procedures used by the agency to evaluate water projects. These analyses result in the conclusion that an outlet into the Sheyenne River from Devils Lake is not economically feasible. In fact, the best benefit/cost ratio provides only 0.37 cents in benefits for each dollar spent. In NEPA evaluations, such a result generally results in the alternative being dropped from further consideration. However, COE in this case, citing unique circumstances at Devils Lake, took the unusual step of creating a Wet Future Scenario that led to a positive benefit/cost ratio and COE went on to select the Pelican Lake outlet as the preferred alternative.

Was the Wet Future Scenario undertaken with the full knowledge and consent of the U.S. Congress? The Wet Future Scenario approach used would seem to open the door for COE and other government agencies to use just about any excuse to justify the economic feasibility of a public works project and thus we question whether it was approved by Congress. COE stresses that Devils Lake is a unique situation with respect to flooding events justifying use of the Wet Future Scenario. However, we fail to see the uniqueness of the situation. Whenever humans establish residences or otherwise use lands that periodically flood, whether a river plain or lake plain, they do so at considerable risk knowing a significant likelihood exists that they will face flooding. At Devils Lake, unfortunately, massive wetland drainage in the Upper Basin has exacerbated the natural flooding phenomenon apparently causing inundation of land beyond the natural wetland area. In general, current national policy in such situations is to compensate victims for losses and move them out of harms way while taking steps to prevent further development on such lands. In this way, a long-term solution is achieved without harming those living below the impacted area or the local environment. What perhaps is unique at Devils Lake is that the state agency charged with ensuring responsible water management, i.e. The State Water Commission (SWC), has taken the unusual step of joining forces with wetland drainage advocates leaving the rest of the State's citizens struggling to get out of the way of recurring floods. In the 1970s, SWC saw wetland drainage as a major threat to flooding at Devils Lake. The document entitled "Agreement, Cost Participation By The North Dakota State Water Commission (SWC) for the Construction of Channel A in Ramsey County" prepared by the SWC in 1976 states "It is not the intent of the Commission (SWC) to provide a mechanism whereby presently contributing areas will be ditched and drained. Nor is it the intent of the Commission that nonagricultural land will be converted to agricultural land because of Channel A. Rather, Channel A is to improve the drainage of existing farmland so that it can be consistently and uniformly more productive. *It is the determination of the Commission that additional drainage of presently non-contributing areas will significantly contribute to increased lake levels in the Devils Lake chain, thereby increasing the flood hazard potential to the City of Devils Lake and to thousand of acres of littoral land.*" Against this background, SWC in recent

years has vehemently denied that wetland drainage is a significant cause of Devils Lake flooding and remarkably has stood by and done nothing as 22,000 wetland drains have been built in the Upper Devils Lake Basin draining an estimated 183,000 wetland acres (see FWS co-ordination report in the DEIS). By all accounts, Channel A, a massive drain that expedited wetland runoff into Devils Lake, has added to the Devils Lake flooding problem. To this day, SWC has refused to close the many illegal drains in the Upper Basin that are not in compliance with State law. How was an agency that goes by the unspoken motto “ If you have a flooding problem, we will work with you to pass it on to your downstream neighbors“ brought in as a cooperator in developing a comprehensive solution to the flooding problem at Devils Lake?

Focus of Our Review

Our review centers primarily on major deficiencies in the methods used to develop the data that forms the justification for construction of the Pelican Lake outlet. Specifically, we focus on reliability of the information used to justify the benefit/cost ratio and many of the conclusions reached under the Wet Future Scenario. Among problems we have identified is a failure of the Wet Future Scenario to take into account key information when developing the benefit to cost ratio. We describe how COE relied on a methodology that led to inflated land values when estimating costs avoided by having the outlet in place, failure of COE to recognize that major adverse environmental impacts would result from lowering Devils Lake through partial drainage under the proposed Pelican Lake outlet, treating the biota transfer issue as if it were an afterthought rather than undertaking serious scientific research to collaborate or refute concerns of biota transfer, and giving inadequate consideration to numerous major downstream impacts to the Sheyenne River ecosystem and the associated human population if the proposed Pelican Lake outlet were built.

Unrealistic Future Conditions

To achieve a positive benefit to cost ratio, COE created an extremely Wet Future Scenario lacking credibility for several reasons. First, use of a scenario that would require 21 uninterrupted wet years to produce enough overflow to cause significant downstream damages under any circumstance is difficult to accept given present knowledge but particularly so with current weather information pointing toward drier conditions ahead. The El Nino currently developing in the Pacific Ocean is predicted to result in drier weather in the northern Great Plains this coming year. Beyond that, severe drought currently exists to the west in Montana and Saskatchewan and to the east of North Dakota and precipitation is below normal across much of the state. Given the direction of recent weather patterns and history, it would seem appropriate to hold off for several years on building an outlet to more clearly establish that the recent wet cycle is continuing on a course than would lead to 21 more wet years before launching into a highly controversial solution with major environmental problems. Second, creating an overflow into the Sheyenne River through the Tolna Coulee in order to increase the benefit to cost ratio is a contrived event. COE admits elsewhere that in all probability such an overflow would not be allowed to occur and given the terrain could readily be prevented. Third, COE uses the benefits gained by preventing inundation through building the Pelican Lake outlet to achieve most of the benefits that causes the benefit to cost ratio to be positive. However, as we will address in our comments, benefits have been inflated by using flawed methods. Fourth, COE has taken the

position that there are no environmental impacts to Devils Lake with creation of an outlet in the face of strong evidence there will be major environmental impacts that likely will require a massive expenditure of funds for mitigation if outlet plans go forward as proposed further lowering the benefit to cost ratio. Fifth, COE on one hand recognizes that the outlet will result in major downstream impacts noting that 8,600 acres of destroyed woodland, grassland, and wetland habitat will have to be replaced, but gives little attention to what this loss means and how difficult it will be to mitigate for these losses. The problem is aggravated by a complete lack of detailed information on how the Sheyenne ecosystem functions.

COE in an attempt to rationalize use of the Wet Future Scenario states that while development of the Pelican Lake outlet cannot be justified in the current environment, it should be viewed as an insurance policy. Given the premise that a minimum of 21 years of back to back wet years are required for a damaging overflow, who would purchase an insurance policy having a 97.7 million dollar premium knowing a decision on whether to take out the policy could be put off for years until greater insight is gained as to direction of lake level? With an extremely low probability of an overflow or anything approaching an overflow, it would seem prudent to take a more cautious approach given known major environmental problems and strong opposition to building an outlet. The current proposed project as described in the DEIS does not represent sound scientific or economic policy and certainly not how The National Environmental Policy Act (NEPA) was meant to function. COE used wise judgment in relying on the stochastic approach to evaluate project alternatives at the onset and should return to that approach and select the alternative with the best benefit/cost ratio and with most environmental benefits.

Estimates of Magnitude of Upper Basin Wetland Drainage Flawed

By choosing the Pelican Lake outlet alternative under the Wet Future Scenario, COE dramatically increased the scope of environmental impacts needing to be addressed. However, COE did not follow through and make the necessary thorough evaluation of environmental impacts if the outlet were to be built. As a result, major gaps exist in information needs on environmental and economic impacts to the Sheyenne River ecosystem, and of long-term impacts of lowering lake levels on the aquatic ecosystem of Devils Lake including it's major recreational fishery if an outlet were built. Ironically, one of few areas where new information was collected and used, i.e., to estimate number of acres of drained wetlands in the Upper Devils Lake Basin, detailed data already were available from the U.S. Fish and Wildlife Service, the federal agency with recognized expertise in delineating intact and drained wetlands. FWS estimates of number of wetland acres drained (identified as 183,000-189,000 acres in the FWS coordination report which is included with this DEIS) were disregarded in favor of the WEST study where the authors candidly admit their methods likely underestimated numbers of drained depressions. WEST only identified 294,400 acres of wetlands (of which 92,400 acres were identified as drained - page 3-19) whereas Ludden, Frink, and Johnson reported, in the *Journal of Soil and Water Conservation* (1983) that the Devils Lake watershed once contained 405,000 acres of wetlands. Even that estimate appears to be conservative, as based on hydric soils, the U.S. Fish and Wildlife Service estimated there to have been 589,000 acres (Devils Lake Feasibility Study, 1997). Part of the reason for the exceptionally low estimate of drained wetland acreage by WEST is explained in Section 8--Upper Basin Storage Study that accompanied the DEIS. The WEST report states "It should be noted that the NWI wetland definition and the resulting NWI polygons do not include depressions that were completely

drained prior to 1979." As at least two-thirds of the wetland drainage in the Upper Basin occurred before 1979 methodology used by WEST contributed to the low estimate of numbers and area of restorable wetlands and thus the potential contribution of wetland restoration in solving the problem. WEST recognizing the major gaps in their data provides numerous recommendations for improvements. Taken together, existing information clearly shows data presented is unreliable concerning extent of wetland drainage or the contribution that wetland restoration can play in solving the current problem. Given the recognized importance of wetland drainage in the Upper Basin by a wide array of interests, why were not the steps WEST recommended to improve estimates of wetland restoration potential implemented before the DEIS was sent out for review and thus available for use in the decision-making process? Moreover, why were not the drained wetland estimates of FWS, the obvious usual source of such information, used in the first place? Relying on the results of WEST, a private consulting firm with limited expertise in delineating existing or drained prairie wetlands, the number of drained wetland acres fell to less than half from FWS estimates, i.e., 79,767 vs. 183,000 acres, thereby grossly underestimating the role of wetland restoration as a solution to the problem. It is time to take wetland drainage in the Upper Basin seriously and get the necessary facts before moving forward with the DEIS review process. We strongly recommend that an in depth study be undertaken using the latest technology as recommended by WEST and FWS to identify wetland area that has been drained and also water storage potential in restored wetlands. In view of all the problems shown with the wetland data, it is clearly premature to state that wetland drainage has only added 6-12 inches to the elevation of Devils Lake over the past decade.

In Depth Hydrological Studies Needed

Given the seriousness of flaws in the DEIS concerning wetland restoration issues, and the lack of credibility in hydrological aspects as now presented, it is time to conduct a thorough study of the water budget of the Devils Lake Basin using state-of-the art models agreed upon by all parties to the dispute. As a starting point, one might consider the following relationships. The North Dakota State Geological Survey has constructed a 4,000-year time-series of lake stages. Based on these stages, an argument was made that agricultural drainage has no effect since several times during the constructed series, lake elevations equaled or exceeded the current high water. In fact, the extreme elevations contained in the series exceeded the elevation of the Devils Lake-Sheyenne River divide. However, this is not proof that agricultural drainage has not affected lake elevation or that wetland restoration could not mitigate for the effects of agricultural drainage. If the 4,000-year series, excluding the historical period, is divided into rising limbs and falling limbs, the mean time from trough to peak is approximately 160 years and from peak to trough 130 years reflecting that under prehistoric conditions, the watershed tended to dry out faster than it filled up. Moreover, when we computed the slope of, or rate of increase of each of the rising limbs in the pre-historic time-series and then compared them with the slope of the historic event, we found the historic event has a rate of rise that is over 3 times greater than the mean rate of the pre-historic trace and two times greater than the maximum rise of the pre-historic record. In fact, the historic rate of increase in water level (since 1940) is 5 standard deviations from the mean of pre-historic rates. This clearly points toward agricultural drainage as having a major impact on the rise of Devils Lake since 1940. Current assessments that portray wetland drainage as being, at most, a minor factor contributing to rising lake levels are highly speculative. The time is long overdue for a rigorous scientific assessment of the contribution of

wetland drainage to the current elevation of Devils Lake, and flooding in the Devils Lake Basin, in general.

Problems With Implementation of the Wetland Restoration Plan

Another major problem with the current wetland restoration plan relates to how the Upper Basin wetland restoration plan (page B-29 of the Appendices) would be implemented. COE stresses wetland restoration is not part of this project but has the potential for being "complementary". The "complementary plan" would involve 1-10 year water storage contracts paying landowners up to 70% of fee title value with the property owner being able to unplug the drains when lake level fell below 1440. This plan limits the value of the wetland restoration program severely while making it excessively expensive further ensuring lack of implementation. When each short-term contract ends, new contracts would have to be sought and renegotiated raising major questions as to how much long-term storage would result in light of the near total failure of short-term efforts undertaken to date. A much better alternative would be to take a long-term perspective with the Government acquiring lands in fee title as lands become available from willing sellers and/or acquire water storage rights lasting through the life of the project. The plan now being put forth may make wetland drainage even more financially lucrative with few safeguards and thus only add to the current problem. If this project is worth building, a major stipulation at the onset needs to be that wetland restoration will be funded and be of a scale to that will significantly reduce runoff from drained wetlands into the Lake by having drained wetlands either acquired in fee title or held under easement in perpetuity or at least through the life of the project and restored at the same pace that other project features are completed. Otherwise, water storage will continue as a much talked about but largely not implemented part of the project as has existed to date. This will result in continued frustration by all parties except those Upper Basin landowners that want no limitations on their ability to drain water onto their downstream neighbors.

In the DEIS, COE dances around the issue of wetland drainage without even making a commitment to link prevention of wetland drainage to building of the outlet. In a statement on page 6-19, COE states "If Upper Basin storage is pursued or a moratorium on wetland drainage implemented, the Corps concurs development of a monitoring plan should be part of these features". Is this statement suggesting that in the absence of a moratorium on wetland drainage (which apparently is a certainty with the SWC in charge of making the decision), COE will still plan to go ahead with the project without stopping Upper Basin wetland drainage? **IF THIS PROJECT WARRANTS CONSIDERATION IN ANY FORM, STOPPING WETLAND DRAINAGE IN THE UPPER BASIN BY DEVELOPING AN EFFECTIVE MONITORING AND ENFORCEMENT PLAN NEEDS TO BE JOB 1 AND MADE A KEY FUNDED PART OF THIS PROJECT.** Without stopping wetland drainage, this project will lack the slightest hint of credibility and the current controversy will continue to grow. In conclusion, the current analyses of Upper Basin water storage potential while given considerable lip service in the DEIS is woefully inadequate.

The DEIS frequently includes statements suggesting that only citizens downstream of Devils Lake are concerned with Upper Basin wetland drainage as a major cause of the Devils Lake flooding problem and wanting wet drainage to be stopped. However, this is clearly not the case and should be indicated each time this subject is addressed in the DEIS. Landowners in lower parts of the Devils Lake Basin recognize wetland drainage as a fundamental part of the

problem facing them. This position is clearly reflected by numerous property owners around Devils Lake having joined in a lawsuit against landowners in the Upper Basin and The State Water Commission in an attempt to stop further wetland drainage and proceed with wetland restoration. Also, as recently as April 2002, the Benson County Water Board and Benson County Commissioners voted to sever ties with The Devils Lake Basin Joint Water Board because of failure of the DLBJWB to take measures to stop Upper Basin wetland drainage (Associated Press story in Grand Forks Herald). In other words, there is major controversy among landowners within the Devils Lake Basin over continuing wetland drainage and failure to restore wetlands in addition to a wide array of downstream interests viewing wetland drainage as a central issue in creating the flooding problem.

Much Wetland and Other Low Value Lands Treated as High Value Agricultural land in Benefit/Cost Analyses

Devils Lake is a natural wetland underlain by soil types that developed under moist soil conditions and these soil types have been classified by the U.S. Department of Agriculture. Soil types provide detailed information needed to interpret environmental impacts resulting from selection of an outlet alternative. The current failure to address wetland habitats in Devils Lake is a bit puzzling given that wetland habitats in the Upper Basin and along the Sheyenne River were delineated. Soil types not only provide a scientifically sound method for evaluating the scope of ecological impacts but also provide a scientific basis for assessing economic value of lands, a use for which soils information is widely applied. Economic value of lands is a key consideration here because much of the perceived benefit of the Pelican Lake Outlet alternative comes from the Government not having to purchase lands in the Wet Future Scenario that are otherwise predicted to become inundated (Appendix B, page 38). For Ramsey and Benson counties where Devils Lake is located, detailed published soil survey reports are available for use in both the environmental and economic evaluations. These soil survey reports provide a wealth of information not only on the precise distribution of soil types (and wetland habitats) in the Devils Lake area but also economic value of lands either currently inundated or could become inundated under the Wet Future Scenario. These reports show is that a large portion of the inundated area at Devils Lake, along with the area that would be inundated should the lake continue to rise, are underlain by soils types characteristic of wetlands and having economic uses recommended as primarily for wildlife habitat or pastureland. This poses a problem for the current DEIS because a major part of the benefits of the proposed Pelican Lake Outlet are based on the assumption that these are high value agricultural lands. Unless COE switches to a soil-based method of identifying economic capability of lands inundated or would be inundated under the Wet Future Scenario, and adjusts land values accordingly, estimated benefits for the proposed Pelican Lake Outlet will be grossly inflated over real value. The result will lead to land valuations being contested. Simply stated, the current approach used by COE in the DEIS has led to a large amount of swampland and other low value land being treated as high value agricultural land. As a result, a key proposed benefit of the outlet, i.e., preventing inundation of agricultural lands, is overvalued. Using soils information to determine land capability and thus valuation will eliminate this problem for the 93,000 acres inundated since 1992 (which now are classified as agricultural and given a high valuation, i.e., \$600.00/acre on page 2-38). It will also provide a sound method for assessing value of the remaining lands that might become inundated with the Wet Future Scenario.

Land Values Misrepresented by Thematic Mapper Data

The land valuation problem arose, in part, because COE decided to use Landsat thematic mapper data (Table C-5 Appendix C-16), to establish land use and as a basis for determining economic value. Thematic mapper data is useful only as a measure of land use, i.e., whether in cropland, pasture, or wetland, and then only at the time surveys are flown. As a result, such surveys are poorly suited for providing a true measure of lands economic worth and can result in inaccurate results. Thematic mapper methodology becomes particularly misleading when mapping is done under unusually dry conditions as was the case at Devils Lake. Landsat coverage data of the Devils Lake area described in the DEIS were obtained primarily during 1987-92, the second driest period (after the 1930s) in the 20th century in North Dakota. In the 1987-92 period, dry conditions allowed farmers to extend their tillage operations much farther into wetland soils within the affected area than is usually possible. As a result, Thematic mapping created the illusion of a higher percentage of the land being in cropland than normal, and a lower percentage being in wetland. Had soils information been used instead, economic capability would have been accurately assessed and land value estimated irrespective of a wet or dry period. Based on Thematic mapper data, COE put a \$400.00/acre value on all lands that have been or would be inundated under the Future Wet Scenario. Given that mean land values for Benson and Ramsey County were estimated to be \$320.00 and \$390.00 per acre, respectively (page 5-19), and the Devils Lake lands contain a much higher percentage of wetland and waterlogged pastureland, valuations are grossly inflated resulting in too high a benefit being claimed for the outlet alternative.

Further questions surround the issue of claiming benefits rather than cost for partial drainage of natural wetlands as would occur with outlet development. Wetlands have high intrinsic economic value for maintaining the Devils Lake fishery, wildlife populations and water-based recreation, in general. In some cases, economic benefits may have been claimed for draining publicly owned wetland habitat that provides outstanding recreational benefits to the citizens of North Dakota. COE clearly needs to go back and recalculate the benefit to cost ratio after thoroughly examining what amount of economic loss is being claimed for agricultural lands that are part of the natural wetland area of Devils Lake as well as surrounding land claimed to be high value agricultural lands. This information is essential for developing appropriate mitigation to replace wetland habitat that will be degraded or drained due to the Pelican Lake outlet project.

Other Ways of Solving the Devils Lake Flooding Problem

Beyond the issue of the economic valuations of lands already inundated or projected for inundation in the future is a perceived need for the Government, as part of this project, to have to purchase lands and thus incur the costs that are used to justify the Pelican Lake outlet. Is it known or just assumed that purchase of lands by COE under this project is the only mechanism available for compensating landowners holding lands currently inundated or possibly inundated in the future? For example, would these lands qualify for the Wetland Reserve Program or other public or private funded efforts that would result in no cost to the Government under this project? Have landowners already enrolled inundated lands in government programs that reimburse them for the water. If so, this should be clearly stated in the DEIS and the necessary costs of inundation adjusted accordingly. At present, it is not clear that the Federal Government

working through this project offers the only alternative for compensation. Funds may be available through FEMA to green belt this area taking conservation easements and thus eliminate flood damages altogether. Another alternative would be to let certain economic uses continue on non-wetland soils even after the Government has purchased rights to let inundation occur. Economically and environmentally, one of the best solutions for the Devil Lake Region might be to have Congress establish a National Recreation Area at Devils Lake incorporating the inundated lands within the boundary. This would greatly increase tourism and the lake region economy given the boating, fishing, hunting, bird-watching opportunities, the presence of notable historic sites, a big game refuge and a native American community with much to offer. The Lake is a resource available for use in all seasons so has immense potential much of which remains unrealized. Clearly, there are many positive alternatives to the one presented in the DEIS that need further exploration. As everyone in North Dakota is keenly aware, agriculture is a struggling industry in the best environments for many reasons including some beyond its control. In the wet soils surrounding Devils Lake, agriculture faces even greater risks. Why attempt to keep agriculture going on lands that have much higher potential for recreation and tourism. Few communities in this region approach the Devils Lake area in having natural assets from which to build a self-sustaining economic future broader based than in the past. Yet, the project proposed in the DEIS is aimed at degrading the very resources that offer the region a bright future in order to continue to chase after outdated philosophies abandoned decades ago elsewhere.

Failure To Consider Impacts to Devils Lake Ecosystem

The DEIS needs color-coded maps of Devils Lake identifying: (1) the natural boundaries of the lake based on wet soil types that support wetland vegetation, (2) how much and what parts of the lake are publicly owned, (3) specific fish and wildlife resources associated with various parts of Devils Lake, (4) how much and what parts of Devils Lake will be drained when the outlet is constructed and the lake is drawn down to 1441.7. The current map showing only the extent of inundation at various elevations provides little insight into most of the environmental issues needing to be addressed in the document. With the minimal information presented, the entire lake up to 1459 could be on wetland soils and thus a natural wetland based on the limited information presented.

COE on page 5-93 makes the statement "The operation of an outlet would have limited effects on the aquatic life of Devils Lake." COE, by taking the position that the Devils Lake ecosystem will not be damaged if an outlet is built appears not aware of the inadequacy of the DEIS in meeting NEPA requirements. How can such a statement be made when considering that the present plan is to bring the lake down from 1447.1 (current lake elevation) to 1441.7 or 5.4 feet. This drop in lake elevation would eliminate 40,000 acres of shallow highly productive aquatic habitat that currently serves a key role in maintaining one of the most productive freshwater fisheries in the United States along with supporting nationally and internationally important migratory waterbird populations. A major part of the 40,000 acres is on natural wetland soils and presumably drainage will require replacement through mitigation that presumably will be accomplished through wetland restoration in the Upper Devils Lake Basin. Were the major impacts the outlet would have on the Devils Lake ecosystem ignored due to lack of COE expertise in such aquatic habitats or because identifying such impacts would lead to COE having to develop costly mitigation which further reduces benefits of the Pelican Lake

outlet putting the project in jeopardy? Should the entire 40,000 acres of wetland habitat that would be drained under current plans have to be replaced in the Upper Basin, using the COE wetland restoration cost of \$1000.00/acre as followed in the DEIS, mitigation costs for Devils Lake alone would be about \$40,000,000, significantly reducing the cost benefit ratio.

Cumulative Impacts on the Devils Lake Fishery

Why are cumulative impacts of the Pelican Lake Outlet alternative ignored? If the lake is pulled down 5-6 feet to reach 1441.7 as currently sought by draining the lake through the Pelican Lake outlet, it will markedly hasten the date when salt concentrations in the lake increase to where fish production and fish growth are seriously impacted which will lead to major economic losses to the recreational fishery. The relation between partial drainage of Devils Lake through the outlet and the temporal pattern of change in lake volume, increased salt concentrations, and thus fish status can be predicted for the life of the project through modeling by taking into account key parameters involved. Modeling should provide a basis for estimating over the 50-year life of the project how many fewer years the Lake will sustain an economically viable recreational fishery as a result of having lake waters drained down through the outlet. This cost needs to be added as part of the economic cost to the benefit to cost ratio of the proposed Pelican Lake outlet. NEPA requires a full and accurate accounting of environmental costs and the DEIS currently lacks any accounting of some of the most basic impacts of the proposed Pelican Lake outlet on the Devils Lake ecosystem. Again, we emphasize that not defining the lake beyond lake elevation is biologically meaningless. Productivity of soils within Devils Lake vary widely so knowing the planned outlet water regime plan provides a basis for determining water coverage over particular soil types and thus availability of that soil type within the Devils Lake ecosystem at various lake elevations which has implications concerning amount of fish and wildlife that can be produced. Once soils are defined, it will be possible at any lake elevation to assess effect of the outlet on extent of loss of productive soils to fish populations and waterbirds. Many species rely on natural water fluctuations to create productive foraging conditions. As soils are more productive at the upper elevations of Devils Lake, detailed insight is needed on soils available with and without the outlet. Lake levels will average lower with the outlet and a detailed assessment is needed on how this will impact the food chain that sustains fish populations and migratory water birds. With the Devils Lake ecosystem defined, the evaluation will be on a sound scientific footing setting the stage for developing the appropriate mitigation measures to offset impacts resulting from the outlet. It should also be noted that mitigation will be needed to compensate for impacts associated with the outlet preventing the lake from rising to its full potential within wetland soils as this constitutes a form of wetland drainage.

Why are not impacts to the drawing down the lake through the outlet and related ramifications given greater coverage in the DEIS benefit/cost evaluation? In a semi-arid environment of North Dakota, removing freshwater at Pelican Lake through the outlet hastens considerably the day when the recreational fishery will be adversely affected or lost due to declining water levels. This issue is now only superficially addressed but a model using a stochastic approach needs to be developed taking into account long-term precipitation rates to estimate the additional number of years over the life of the project Devils Lake will not support a recreational fishery or a reduced fishery due to the presence of the outlet and how this will impact on the economy of the Devils Lake area.

Who Owns the Inundated Lands?

Landownership within the natural wetland boundary of Devils Lake as determined by extent of soils supporting wetland vegetation is not given in the DEIS and is needed as ownership has a key bearing on predicting long-term impacts following construction of the outlet. On privately owned land, encroachment can be expected into lands drained by the outlet and insight is needed concerning whether and how far such impacts can be expected into the Devils Lake ecosystem. Who owns the 93,400 acres of land that have been inundated since 1992 (how much is in public ownership and under what agencies? How much Devils Lake bottomland officially classified with wetland soils was cultivated during the 1988-92 drought based on Thematic mapper data? How much of the Devils Lake wetland area that was in public ownership in 1987-92 was cultivated based on Landsat thematic mapper data? This information will provide insight into land use as water levels in the lake recede with an outlet. What is the policy of public agencies on allowing farming of public lands lying within Devils Lake if the outlet draws water down to where these can be farmed? The Spirit Lake Nation currently is in court attempting to reclaim ownership of the entire bed of Devils Lake. How would a successful lawsuit by the tribe affect the benefit/cost analyses of this project? Would this action negate benefits associated with assuming maintaining agricultural production will be maintained by preventing inundation? Do any of the 93,000 acres inundated since 1992 belong to the Federal Government as a result of having rights transferred as part of the State of North Dakota's contribution to the Federal Government for partial completion of the Garrison Diversion Project (GDU)? How were GDU and other public lands treated in the benefit/cost analyses? How is land being managed for which rights have been transferred to the Federal Government? How much of the 93,000 acres of land inundated since 1993 are in federal or other land retirement programs that provide annual payments to landowners offsetting costs from inundation?

Sheyenne River Impacts

The COE proposed outlet would drain waters into the Sheyenne River, even though not economically justified. Using a Wet Future Scenario to validate an outlet would not prevent Devils Lake from overflowing, but would only slow the rise. In the meantime, the wet scenario would increase the amount of water in the Sheyenne River and the Red River, exacerbating any high water problems already being experienced in those watersheds. Has the wet scenario modeling used for determining the downstream impacts of running an outlet also taken into account that flows would already be high in these rivers? How can COE not take action to prevent more inflows into Devils Lake, especially since a wet scenario means there will be high water downstream even without an outlet that will only make the problem grow worse. Upper basin storage appears essential to any scenario yet is held out as a possibly a complementary feature.

COE data shows a 9% chance of a natural overflow to the Sheyenne River, and a 100% chance of impacts to the River with an outlet (1-S-5). It is our determination from reading the reports and research data, discussions with scientists and attending meetings that there is not enough of a threat to warrant the outlet path at this time, nor has enough information been validated and quantified to adequately assess and inventory the Sheyenne river ecosystem to ascertain impacts from this proposed outlet. COE clearly does not know enough about the

Sheyenne ecosystem to adequately assess the impact of the outlet and thus accurately measure costs for inclusion in the benefit/cost ratio.

Inadequacy of Biota Transfer Information

According to the Biota Transfer Study commissioned by COE, the report's comments state huge data gaps exist and it is not possible to assess the risk without more information. The DEIS presents conflicting remarks on this issue, citing a conclusion of very little biota risk (1-S-10) and "studies are adequate," yet in Unresolved Issues (1-S-12) stating water studies are not complete, effects are unknown and won't be known until the project is under way. This is not an adequate accounting of risks. As an example of inadequacy of the Biota Transfer Study, which was a literature search only, is that most information comes from 1924 documents discovered by the Peterson Environmental Consulting, Inc. firm. The COE did not attempt to gather any water samples until AFTER a report was filed by Peterson's firm's Biota Transfer report at a Tech Rep meeting in August 2001. In September 2001, COE ordered a sampling to check the organisms and waters of Devils Lake for pathogens. COE plans are to take another sampling in the Spring 2002. The results will not be available for public comment, as their results will not be available until the comment period is closed. This is unacceptable. We want to know why there wasn't more sampling done - in the Sheyenne and Devils Lake - to determine baseline populations of the flora and fauna of both systems? Why are definitive conclusions being made by COE in the absence of information?

It is likely that Devils Lake has species that have not been evaluated. As a major fishing destination, Devils Lake hosts tournaments that attract fishers from a wide area and well beyond the borders of North Dakota. As a result, the potential exists for introduced organisms present in bait and fishing equipment, boats and trailers that have not been found nor searched for at this point. Zebra mussels, for example, can easily be transported with boating equipment and become established in areas too saline for freshwater mussels. The saline waters of Devils Lake areas area provide habitat well suited for zebra mussels. Without more testing, no conclusions should be reached concerning the potential for interbasin transfer of organisms.

The Riprap Issue

Riprap is a huge concern to those living downstream along the Sheyenne River. Riprapping of the Sheyenne, which currently is among the most beautiful rivers in the north-central United States, will eliminate the very values that have caused the river to be designated as a Scenic Byway. Removing or killing a narrow gallery forest along many miles of the Sheyenne is a dramatic and unacceptable alternative. What cost has COE placed on severely degrading a riparian forest and Scenic Byway that attracts people from throughout the region? Many references are made to how outlet impacts to the Sheyenne River will be mitigated, when these impacts could be avoided if funds were expended on preventive measures such as Upper Basin storage, infrastructure improvement, and greenbelting of low lying areas. Until COE undertakes the thorough assessment of Upper Basin storage potential called for earlier in our comments, it will be unclear whether any type of outlet is needed. Plans for riprap to reduce erosion, acquisition and management of riparian zones, protecting cultural sites, improving roads and bridges, upgrading water facilities and long-term monitoring are effects and expenditures that could be avoided. The COE does not even have a detailed inventory of the lower Sheyenne

riparian zone? Major studies are needed to document how the Sheyenne ecosystem functions before any work is done so that appropriate steps are taken to mitigate for adverse impacts.

Channel capacity in lower parts of the Sheyenne River is limited. The extra flows from an outlet would increase erosion, sedimentation and groundwater stages (3-7) adjacent to the river to up to 3/4 of a mile away. The shallow, sandy water tables of the Sheyenne Grasslands, adjacent landowners and livestock watering sources would be affected. Increased flooding from localized storms could not be predicted in order to adjust flows from the outlet in time to prevent damage downstream. The frequency of high rainfall events are impossible to predict, increasing the likelihood the outlet will result in needless damages. Increased impacts from salinization can be expected by the water users of the Sheyenne and Red Rivers as higher water levels freeze up for winter, then thaw in the spring, bringing more salts from the groundwater storage areas that had been held under pressure of the winter ice. (See study by Environment Canada.)

Lake Ashtabula/ Mercury Concentration

Increased flows into and out of Lake Ashtabula have the potential for a number of negative impacts including introducing more sediment that will shorten the life of Baldhill Dam (have these costs been included in the 50 year projections of cost?). What contaminants will be in the sediments introduced from outlet waters? Mercury concentration is high in Devils Lake. How much mercury will accumulate in Lake Ashtabula over the project life span and what will be the effects on the fish and fishery? The ND Game & Fish Department in a recent report stated the fishery at Lake Ashtabula is worth \$3 million dollars to the local economy so is an important financial asset to Barnes County and Valley City. (See EPA Environmental Justice report). The outlet will likely have a negative impact on the economic value of the recreational fishery due to increased concern of fish becoming contaminated with mercury. How will changes in the sediment dynamics brought about by increased water flows affect the fishery? Another consideration for Lake Ashtabula, as determined by the ND Game and Fish report, is that increased flows tend to flush out more of the desirable walleye sport fish as has been indicated in their recent 3 year study. Despite stocking more walleyes, they conclude more fish are washing out with the extra water being released from the dam to maintain COE's optimal water level. More water moving into Lake Ashtabula through a Devils Lake outlet will mean more water going out through Baldhill Dam, and more fish with it. Has this economic impact been considered by the COE impact analysis?

The other obvious concern is for water quality. What will increased sedimentation, salinization and extra flows do to the water quality of the river, and how will this affect the lower Sheyenne River system? The COE DEIS statements conclude it will cause damage to the lower Sheyenne.

Natural Resource Impacts to Lower Sheyenne

The delta of the Sheyenne River is predominantly woodland, one of the few heavily forested areas of the state. These forested areas harbor a number of listed Species of Concern due to unique, rare plant, animal, bird species or habitat types. The 1999 US Fish & Wildlife Service PAL report states that long-term low-lying flooding will adversely affect the trees and water tables. In other words, increased flows will kill the trees and seep into the groundwater. What is the COE plan to prevent this? You can't replace the 100-year old oak savanna forest and wildlife that go with it in the 50-year projected life of this outlet project. In North Dakota, the

Sheyenne River provides habitat for more fish species than any other North Dakota tributary. There are 9 species of freshwater mussels (2-18), depending on fish as intermediate hosts to complete their life cycle. What will be done to protect the unique habitat type of the Sheyenne Delta? This would be an irreparable loss. There are 857 natural heritage sites listed in the Sheyenne basin. The cost of protecting or moving these sites has been estimated at \$11 million. These are losses we feel can be prevented and are unnecessary.

Water Use from the Sheyenne

The City of Fargo will use Lake Ashtabula as an emergency water source, which will add to sediment transport in low water periods. If the lake has been loaded up with more sediments from increased flows into the lake and then drought comes, what will happen to the accumulated sediments, and how will sediment transport affect water users all along the Sheyenne? Communities of Fargo, Grand Forks, Grafton, Pembina, Drayton and associated businesses (2-23) might want to know what to expect in the 50-year projection of the project. There is an increased likelihood of dry weather instead of the 21 years projected in the wet scenario by the COE. What will the accumulated sediments do when water levels are low, concentrating them and their effects?

Water Quality

The Sheyenne River is a Class IA stream as is the Red River. The sulfate standard is 450 mg/l. However, the State of North Dakota anti degradation policy calls for a review process whenever new or expanded pollutants would cause a significant permanent effect on the quality and beneficial uses of the affected waters. In a ten year modeling of the Pelican Lake outlet in the Wet Future Scenario, the increase in chloride concentrations would range from 100% to 600% increases in the river baseline - without exceeding the 100 mg/l standard. However, this would be a 600% increase in chloride and would be considered a significant effect by the ND State Health department who would then rule on whether to allow this magnitude of increase. What would be the effect on the flora and fauna in the aquatic ecosystem of a 600% increase in degraded water? Does COE know? What dollar amount does COE use in their benefit/cost analyses to reflect loss of diversity and species inhabiting the area?

With Pelican Lake operations at 300 cfs, 250 mg/l sulfate or above would be occurring 13% of the time, and with a 480 cfs unconstrained, 34% of the time. (4-18). Operation of the outlet would exceed the state's anti-degradation policy. What will be the effects of elevated concentrations of sulfates over the life of this project?

Other permitted water users, such as the Fish & Wildlife Service with 10 permits are only noted as having 2 in this DEIS report. Why? The only 2 recognized are the National Fish Hatchery at Valley City and Bald Hill Dam. The TDS concentration at this reach of the river could affect the hatchery's function: hatching and raising fish, at their most susceptible life cycle stage. The hatchery has no other water source that can be used, and well waters come from river waters. Loss of this river function could cost millions to the recreational fishing industry in the State of North Dakota. (5-44)

Summary and Conclusions

The treatment given environmental and economic consequences of an outlet on the Devils Lake ecosystem are grossly inadequate and need much greater consideration in a revised draft of the DEIS given the importance of the Devils Lake ecosystem to the Nation, the recreational fishery to North Dakota and to the economy of the Devils Lake Region. As our comments allude, many questions with important implications to the future of the Devils Lake ecosystem that could be affected by the construction of an outlet have not been addressed nor mitigation measures considered. We recommend that detailed studies be undertaken before any plan is approved to gain a better understanding of the Devils Lake ecosystem and how the ecosystem currently functions. Major interstate and international concerns dictate that a state-of-the-art model be developed including accurate information on soil capability of all impacted lands, land ownership, and land use to assess how changes in hydrology will affect the Devils Lake ecosystem and will impact key fish populations and wildlife species with results provided for each alternative presented in the DEIS. Updated information on wetland restoration potential should be integrated into the model and evaluated. Currently, without standards for assessing environmental impacts of the selected outlet on the Devils Lake ecosystem, no adverse impacts were found. With stats on extent of wetland drainage and wetland restoration potential in the Upper Basin being highly questionable, evidence that much wetland was passed off as high quality agricultural land, and evidence that the Wet Future Scenario is a contrived assessment, it is clear that COE either needs to reconsider proposing an outlet alternative, or conduct a much more thorough assessment of impacts and benefit/cost analyses than is presented in the current DEIS. The DEIS started with a credible assessment based on the stochastic analyses approach and should continue on that path.

Biota transfer risk is not adequately assessed, baseline inventories are nonexistent, and there is substantial cause for concern due to lack of information. Therefore, if after this review process is completed, an outlet plan is still under consideration, a major scientific study will be needed to address this issue.

The Sheyenne River is among North Dakota's most valuable natural assets. The high aesthetic value of the Sheyenne Valley is reflected in the river valley being one of few rural areas in North Dakota where population is rising. The beautiful natural setting that is bringing many to the Valley is now at risk. Developing the meandering tree-lined Sheyenne into a riprapped ditch so wetland drainage in the Upper Basin can be allowed to continue is an abomination. How attractive will a river be with the trees along its shores dying as now described in the DEIS, and its gentle slopes lined with riprap? How much cost did COE attribute in the benefit/cost ratio for diminished property values as porches that now look over a placid tree-lined meandering river face the skeletons of trees dead from a rising water table? It is not so simple for the people involved as the brief statement presented in the DEIS that 6,032 acres of trees will be lost and need to be replaced (Page 6-32). How does one replace 100-year old trees lining the banks of the Sheyenne with seedlings that will at best take another century to rise to such heights. Worse yet, the 6,032 acres of trees cannot be replaced where present stands die along the shores as these trees would also die out due to the higher water table. Thus, the many tree lined miles of low forest would have to be replaced at higher elevations where trees grow less well leaving the many homes and other locations graced by these stands with dead trees falling into the river later to be replaced by treeless rock lined banks. True mitigation means replacement "in kind" of that which was lost. The current plan would not begin to accomplish that task. Moreover, mitigation needs are only partially addressed due to lack of understanding of how the riverine system functions. Riprap leads to more problems, and operation of the outlet

will destroy an oak savanna forest that is rare in North Dakota. Negative impacts to the Sheyenne River and associated landowners and water users have not been adequately assessed for a project that is to have a 50-year life of impacts. The current proposed project using a contrived Wet Future Scenario creates a remote chance of an overflow that will not be allowed to happen in the first place. Yet, the impacts from developing the outlet are certain to severely degrade one of North Dakota's most valuable natural assets with huge long-term negative environmental and economic implications. Even though spending millions to try to mitigate for downstream environmental impacts, the DEIS falls far short of providing a full accounting of the impacts of the project to either the Sheyenne River ecosystem or the human inhabitants of the region that depend on the river for their livelihood, or for recreational and aesthetic values. Take, for example, the major problems downstream landowners face from more water being run through their lands tearing out fences, killing the trees that provided shade for their livestock, and watching their lands erode into the river.

Many of the shortcomings of the DEIS result from limitations imposed by Congress for how appropriated funds could be spent along with laying down unrealistic deadlines for dates by which the DEIS had to be completed. As a result, many thoughtful questions raised in scoping meetings received minimal consideration leading to the many problems outlined here. Initially, a major attempt was made to circumvent the NEPA process entirely under the guise of an immediate crisis and when that failed, the current review process followed. Even at this late stage, with no "crisis" looming and serious concerns of an impending drought, ample time would be available to thoroughly consider potential alternatives and conduct the science-based studies that could lead to an environmentally and economically sound project. The DEIS while listing pages of so-called studies is mostly tidbits of information gleaned from libraries or obtained through use of models that frequently lacked that necessary input data to produce credible results or appropriate conclusions. Given the scope of the action proposed, it is irresponsible to give minimal consideration to the complex and far reaching implications to the natural resources involved and the human populations that rely on these resources for their livelihood and for recreation.

It is no small matter that 350+ million federal dollars have already been spent to take care of the Devils Lake flooding problem with more funds already on the way to assist those needing help. This circumstance begs the question of why promoters of the project have put so much effort into rushing through an outlet alternative when steps already taken or planned have gone a major step toward solving the problem. In trying to understand the logic for the current proposed alternative, we are troubled by the fact that the Garrison Conservancy District and State Water Commission are each paying \$15,000.00 a year to a Devils Lake outlet lobbyist who travels about the region attempting to sell the outlet plan. We, as farmers and business owners, are having to use our own funds and time to try to get a full accounting of the impacts of this project while a tax supported state agency (SWC) and water development group is using our tax dollars to lobby against the citizens of the Sheyenne Valley.

Why is the State of North Dakota indicating it will build it's own outlet from West Bay if the COE does not complete the Pelican Lake outlet? Given all the State's posturing, much of which makes little sense within the context of what is described in the DEIS, one might reasonably ask what is the State's goal? It is widely assumed that part of the reason the State has been trying to rush the Devils Lake outlet to completion is to assure Upper Basin landowners that their "right" to drain wetlands into Devils Lake will not be infringed upon by whatever alternative is selected. The second most frequently suggested reason the State is intent on an outlet is the

desire to turn the outlet into an inlet into Devils Lake which the State has sought for decades. The inlet was a planned feature of the GDU but has been stalled for years by strong national and international opposition. The inlet would function by having water pumped from the Sheyenne River into the West Bay of Devils Lake by tapping Missouri River water and releasing it through the already completed McClusky Canal. The State's plan to create an "outlet" from West Bay to the Sheyenne River only makes sense if the "outlet" is reconfigured into an inlet. All parties (including COE in this DEIS) and the State recognize discharging West Bay water into the Sheyenne River is a non-starter as this action would clearly violate Clean Water Act standards and promptly result in a shut down of the outlet. However, if the intent of the State is to reconfigure their West Bay outlet into a West Bay inlet, the plan makes perfect sense from the State's perspective. Simply stated, the State's current outlet plan appears to be a modern day version of the Trojan horse. We provide these details so decision makers recognize the context in which this project is being promoted and designed.

In closing, an opportunity exists for much good to come out of a well thought out solution to the current situation at Devils Lake. In fact, the plan could serve as a centerpiece for building a bright future for a part of North Dakota rich in natural resources. This can be accomplished in a variety of ways that will not require major damages and downstream controversy as would an outlet. We encourage COE to move forward by stepping back to following up on results gained from the stochastic approach which indicated an outlet was not economically feasible, drop the highly speculative and environmentally damaging outlet alternatives, and focus on a combination of alternatives including wetland restoration, green belting, infrastructure protection to reduce flooding impacts. Beyond these measures, the Federal Government could play an important role in helping finance development of a broader-based economy in the Devils Lake area by helping the region capitalize on its unique natural resources rather than taking steps that will degrade them as the current proposed project would do. However, such a change would require state and local leaders to embrace a new vision for the region and put aside the notion that maximizing the amount of land in agricultural production in the Devils Lake Basin best assures a bright future. Agriculture has been and always will be a major part of the State's economy but technology has made it possible for this industry to continue with few people involved and lands poorly suited for intensive agriculture should be put in other uses. If North Dakota is to have a vibrant future, it must embrace change and Devils Lake is well poised for capitalizing on the resources of the lake and surrounding lands in building it's economy. Being optimists, we hope that a thorough airing of the flooding problem at Devil Lake and proposed solutions might help bring recognition that instead of spending time, money, and talent to undo nature's well thought out plans, the State embrace the unique resources we were given using their qualities to build the state's economy.

We appreciate the opportunity to comment on this DEIS. A hard copy will be sent by mail.

Thank you.

James Stevens, President
People to Save the Sheyenne
Valley City, ND 58072

May 5, 2002

District Engineer
St. Paul District, Corps Of Engineers
Attention: Dave Loss, PM-A
190 - 5th Street East
St. Paul, MN 55101-1638

Mr. Loss:

Listed below are comments, in relation to the DRAFT Devils Lake North Dakota - Integrated Planning Report and Environmental Impact Statement dated February 2002. We had a difficult time in preparing these comments because of the short comment period. We believe that there should have been a longer comment period to give people more time to review and comment about the very large document.

The comments are from the Peterson Coulee Outlet Association. Our members are citizens from Benson and Ramsey Counties, and the association was formed in 1997 because of concerns about the impacts from the proposed outlet project.

First we would like to state that all of the scoping comments our association submitted previously, dated August 26, 1998, April 17, 2001, and October 21, 2001 are still valid.

The comments below follow the outline of the Summary section of the report (pages 1-S-1 through 1-S-13). The viewpoints expressed concern issues in the entire document that need to be addressed.

MAJOR CONCLUSIONS AND FINDINGS (1-S-1 to 1-S-8)

We do not agree with the concept of viewing the outlet as an "insurance policy" because insurance is something that is considered to be dependable. The outlet should not be described that way because it will only lower the lake a limited amount, and will not prevent the overflow of the lake if a continued and prolonged wet cycle were to occur, so an outlet is not dependable. A control structure located at Stump Lake could be considered as an "insurance policy" since it can control the overflow of the lake water if it rises to the natural overflow elevation.

In this same section, the report also states that "The rapid rise in lake elevation from 1993 to 1999 . . . has not been consistent with probability analysis". We believe that this is because of the draining of the wetlands in the upper basin, which has allowed much more water to reach Devils Lake every spring.

The report states that "Although there is a low probability of occurrence, the risks associated with a natural overflow, ... may make the outlet plan an attractive option." It also states "Although an outlet is not economically justified using methods that would determine expected net benefits by producing probability-weighted benefits and costs, the uncertainty of forecasting lake levels and the risk of major impacts assuming an overflow warrant consideration of an outlet plan."

We believe that the risks associated with a natural overflow are over-stated because a control structure at the east end of the lake will certainly be constructed by the state or the federal government as an emergency project if the lake continues to rise to that elevation. So the risks associated with a natural overflow are low, and the damages to downstream people will be minimized. And measures would be taken to minimize erosion at the natural outlet as part of the control structure project.

The report states that "On the basis of stochastic analysis, upper basin storage is not economically justified..." We believe that it is economically justified, but the report does not come to that conclusion because the costs and benefits it is using are not realistic. We have comments about these costs and benefits later in the report.

AREAS OF CONTROVERSY AND UNRESOLVED ISSUES (1-S-9 to 1-S-13)

Purpose And Need For The Project

The Purpose And Need For The Project is an area of controversy that has still not been resolved. As our association stated in our 10/21/01 comments, the STAKEHOLDERS for the project have "Improve Water Quality" as one of their main concerns. In the report, we see that the Purpose And Need statement has not been revised to reflect the desires of the STAKEHOLDERS for improved water quality. This revision needs to be made immediately, because it will affect the decision concerning which alternative is selected for the project. The entire project development process and EIS will be fundamentally flawed unless this change is made. The scoping process has shown that "Improve Water Quality" is one of the primary concerns of the people (STAKEHOLDERS) who will be affected by the project. For a full discussion of these points, see the 10/21/01 comments from our association.

Benefit-Cost Analysis

The alternatives analysis still needs to have a negative monetary value assigned to the degradation in water quality for the west-end outlet alternatives, and a positive monetary value assigned to the improvement in water quality for the east-end outlet alternatives. This value is related to the effect of improved water quality on fishing, boating, swimming, recreation, hunting, and wildlife habitat throughout the Devils Lake area. This monetary value has a large effect on the Benefit-Cost Analysis. Our association also reported this deficiency in our 10/21/01 Comments.

The costs for water treatment by reverse-osmosis are discussed in the Plan Formulation section of the report. This section also needs to include a discussion about the cost and feasibility of water treatment using ice purification methods.

Alternatives Analysis

The objective of this study should be to select the BEST ALTERNATIVE for meeting the purpose and need for the project. This is the spirit and intent of the NEPA process.

Guidance on this topic is in the Memorandum from the Council On Environmental Quality, dated March 16, 1981, referring to the content of an EIS. In the answer to Question 7 it states: "The alternatives section is the heart of the EIS. This section rigorously explores and objectively evaluates all reasonable alternatives including the proposed action." And the answer to Question 5b states: "The degree of analysis devoted to each alternative in the EIS is to be substantially similar to that devoted to the proposed action."

The Draft EIS report states that "Many people have asserted that alternatives to the outlet are not being fairly analyzed in the draft Integrated Report." This was true for that version of the report, and it is still true with this latest Draft EIS report. These deficiencies concerning alternatives are discussed below.

In the comments from our association dated 10/21/01, we reported many reasonable outlet alternatives that had not been considered and discussed in the draft Integrated Report. These outlet alternatives are also not discussed in this latest Draft EIS report, and are listed below. The alternatives should be evaluated using the stochastic (most probable) future for benefits and costs. The alternatives could be designed so that they may be modified to move more water if the wet future (least probable) is realized.

Permanent Outlet Alternatives

Permanent outlet alternatives for the routes listed below need to be included in the EIS (constrained flow).

- 1) Stump Lake To The Sheyenne River (with intake at Stump Lake)
- 2) Stump Lake To The Sheyenne River (with intake at East Devils Lake)
- 3) Stump Lake To The Sheyenne River (with intake at East Bay)
- 4) East Devils Lake To The Sheyenne River (with intake at East Bay)
- 5) Stump Lake To The Goose River (with intake at Stump Lake)
- 6) Stump Lake To The Goose River (with intake at East Devils Lake)
- 7) Stump Lake To The Goose River (with intake at East Bay)

See the discussion in the 10/21/01 comments about the operating plan for these alternatives. Some alternatives have limited flow rates initially, but the flow rate would increase over time as the water quality improves. And the flow rates would be constrained to meet water quality standards. The intake would be either an open channel or a pipeline, depending on economics.

Temporary Outlet Alternatives

The temporary outlet alternatives for the routes listed below need to be included in the EIS (constrained flow). These would be operated for a limited time (5 to 7 years for example).

- 1) Stump Lake To The Sheyenne River
- 2) Stump Lake To The Goose River
- 3) East Devils Lake To The Sheyenne River
- 4) US Highway 281 To The Sheyenne River
- 5) West Bay To the Sheyenne River

See the discussion about the operating plans for these temporary outlet alternatives in our association's comments dated 4/17/01.

Since these alternatives have not been discussed and evaluated in the report, it appears that there is some political manipulation of the NEPA process. This is not acceptable, and is in fact ILLEGAL.

The alternatives that have been omitted need to be discussed and evaluated in the report, and the results shown in table form. We gave an example of the table in our comments on 4/17/01. This table has been included again as Attachment A.

Of the alternatives listed above, only the East Devils Lake Outlet Alternative has been added since the last report. But that version of the alternative is for a 480 CFS (unconstrained) flow rate, so even this is a different alternative from the ones that were presented.

Some of these alternatives may be determined to be not reasonable because they do not fulfill the purpose and need for the project. The alternatives still need to be presented in the report, because the public has a low level of trust that the politicians and agencies involved with this project will carry out the NEPA process properly. The people reviewing the report need to see the analysis information that resulted in the conclusion that an alternative is not reasonable. They need to be given the necessary supporting information and conclusions.

The report does not present any constrained east-end outlet alternatives because it states that they are not reasonable due to water quality considerations. Our association does not agree, and presents the following discussion about these alternatives to show that they are reasonable. The alternatives utilize a variable flow rate, where the flow rate increases over time as the water quality improves. The flow rate is set as the maximum rate of water that can be added to the Sheyenne River without exceeding the 450 mg/l dissolved sulfates standard set by the ND Health Department.

From the Devils Lake Study Newsletter, March 2001, the dissolved sulfate levels for East Bay, East Devils Lake, Stump Lakes, and the Sheyenne River are 1,060 mg/l, 2,780 mg/l, 6,100 mg/l, and 100 mg/l respectively. According to the USGS report entitled Water Resources Data, North Dakota, Water Year 2000, the average stream flow for the Sheyenne River for the 7 months from May to November is 44 CFS. Using this flow rate, we have calculated the following discharge rates for east-end outlets from Devils Lake. Each of these flow rates results in a blended flow in the Sheyenne River with a sulfate level of 450 mg/l. (So the Sheyenne River's sulfate level would increase from 100 mg/l to 450 mg/l during the 7 months of operation).

East Bay - 25 CFS (combined average flow of 69 CFS)

East Devils Lake - 6 CFS (combined average flow of 50 CFS)

Stump Lakes - 2.5 CFS (combined average flow of 46.5 CFS)

These are the initial rates of flow, and the rates will increase over time as the water quality improves. It should be noted that the flow rates for East Devils Lake and Stump Lakes are very low, but will increase substantially as the better quality water flows from Devils Lake into these parts of the lake. If the need to draw down the lake is high due to wet climactic conditions, it may be better to draw water from East Bay, instead.

The water would move by gravity flow for each of these alternatives. The flow rate would be controlled by large gated-valves that allow adjustment of the flow rate. For the Stump Lake Outlet, a channel would need to be provided to East Devils Lake to convey water to Stump Lakes to replace the water that is released due to the outlet.

It may be possible to design a combined outlet consisting of a long open channel constructed along the west side of East Devils Lake and the west side of the Stump Lakes, with provision to let water into the channel from any of these locations as needed. With this channel, water could be released from either East Bay, East Devils Lake, or Stump Lakes. Then a choice could be made as to which water to release depending upon water quality levels and current climactic conditions. For example, during rising lake levels, a large volume of water could be released from East Bay, and during stationary or falling lake levels, a small volume of water could be released from Stump Lakes.

If the politicians still see this as an emergency situation, then another issue that could be investigated is the possibility of the ND Health Department increasing the sulfate standard for the Sheyenne River during the initial operation of the outlet. Then the outlet flow rates could be increased somewhat for several years until the water quality in the lake improves. The water quality would still need to meet the Minnesota and Canada standards for the increased flow rate.

The East-End Outlet alternatives are clearly the best outlet alternatives, for the following reasons:

- 1) The lake level would be lowered by moving water through these outlets and reduce flood damages
- 2) The lake's water quality would be improved, and enhance fishing, recreation, and wildlife habitat
- 3) There would be long-term benefits regardless of future precipitation conditions
- 4) The operating costs to move water would be very low, since it would flow by gravity
- 5) The outlet would provide a means to release water if the lake ever reached the overflow level
- 6) An east-end outlet is needed, because Devils Lake is a terminal lake, and over time the water quality will continue to degrade if there is no outlet

Control Structure

A control structure needs to be constructed at Stump Lake for controlling the flow of water from the Stump Lakes if they ever reach the elevation where they will overflow into the Sheyenne River. The costs of constructing a separate control structure need to be included in the costs for the West-End Outlet Alternatives. The control structure also needs to be a part of costs of the East-End Outlet Alternatives.

Combination Alternatives

Based on the discussion above, the following combination alternatives need to be added to the EIS, recognizing that other combination alternatives may be appropriately added as well.

1. Upper Basin Storage and Permanent East End Outlet (variable flow rate)
2. Upper Basin Storage, Temporary West End Outlet, and Permanent East End Outlet (variable flow rate)

The Temporary West End outlet is described in our comments dated 10/21/01. It utilizes temporary pumps, and other temporary features.

(The Control Structure is also included with these combination alternatives).

Effectiveness Of Outlet

The effectiveness of any outlet is directly related to the whether the lake bed is in contact with a large aquifer. If it is in contact with one, the outlet will be less effective, or even non-effective. We believe that Devils Lake is in contact with the Spiritwood Aquifer, and that this will make the outlet even less effective. Our conclusions are presented in the next section of this letter. The effectiveness of the various outlet alternatives needs to be re-evaluated based on this information.

Interconnectivity Between Devils Lake and Local Aquifers

The US Geological Survey has 3 monitoring wells in the vicinity of Devils Lake, and the wells are located in the Spiritwood Aquifer. One of the wells is identified as 154-067-15BBB, and is located in Benson County. The other two wells are identified as 154-065-09DDD2, and 154-065-21CCC. They are both located in Ramsey County. To see if there was a correlation between the level of water in the Spiritwood Aquifer and the level of water in Devils Lake, we made a graph to compare them (see Attachment B). The lower line on the graph is the elevation of Devils Lake from 1980 to 1998. The upper line on the graph is the average elevation of the 3 wells from 1980 to 1998. The information from the graph is from the USGS report entitled Water Resources Data, North Dakota, Water Year 2000.

Our association believes that this graph shows that there may be a direct connection between the Devils Lake and the Spiritwood Aquifer. The graph shows a very close correlation between the change in water levels of the wells and the lake every year. We also believe that the connection between the lake and the aquifer may be relatively free flowing because there is no time lag between the changes in elevation from year to year.

There is another basis for believing that there is a relationship between Devils Lake and the Spiritwood Aquifer. The geologic history of Devils Lake indicates that it is located in a very large and extensive pre-glacial river valley that was filled with glacial sediment when the lake was formed. Therefore it is highly likely that the sediment in this river valley created an aquifer that is in contact with Devils Lake.

The report entitled Hydrology Of The Devils Lake Area, North Dakota, published by the ND State Water Commission, 1994, also shows that the Spiritwood Aquifer underlies all of the lakes in the Devils Lake chain of lakes, except for East and West Stump Lake. And the report discusses the movement of ground water from the aquifer into the lake.

Due to the importance of this subject with respect to an outlet, our association recommends that additional test wells be drilled, and additional studies be carried out to determine the magnitude of ground water flow into the lake. And any calculations regarding drawdown of the lake from an outlet need to take the flow of this ground water into account.

Biota Transfer

The report states that "On the basis of existing information, it has been determined that there is low potential for transfer of biota from Devils Lake to the Red River drainage basin as a result of the outlet." Because of what is a stake for the downstream users of the river, in terms of commercial and recreational fishing, this issue is very serious. Even a very low probability of transferring harmful biota could make an outlet unacceptable to Minnesota or Canada. Their acceptance of an outlet project should be obtained before it is approved for construction.

Inlet From Missouri River

Discussion of a future inlet needs to be included in the report because the politicians in the state of North Dakota cannot be trusted (based on their past actions concerning Garrison Diversion, and past actions concerning this project). They may state that they have no intention of constructing an inlet at this time, and then arrange to construct one sometime in the future. The only assurance that there will not be an inlet is to have some legally binding agreement that forbids them from constructing an inlet at any time in the future. So without this agreement in place, the inlet must be discussed in the report.

Upper Basin Storage

The report states that "Controversy about upper basin storage appears to be primarily between lakeside communities that desire an outlet and downstream communities (including those on the overflow and outlet routes)."

This statement needs to be further explained. Based on attending scoping meetings and following media reporting, it is apparent that lakeside communities only support an east-end outlet, because they want to see the lake water freshened over time through the operation of the outlet. This is because the recreational aspects of Devils Lake contribute greatly to their local economies. Only a few state politicians and local politicians support a west-end outlet.

The Plan Formulation section of the report has a description of the land areas and costs for the Upper Basin Storage Alternative. We have studied this section of the report and do not agree with some of the points that were made, as discussed below.

The costs that were used for the alternative are given as \$1,000 per acre. We believe that this is far too high a cost. A more realistic cost would be comparable to the cost of land placed in the Conservation Reserve Program (CRP). These costs would be from \$35 to \$40 per acre per year, so the cost for a 10 year contract would be \$350 to \$400 per acre. For 39,000 acres of land, this would cost \$15,600,000 for a 10 year period of time (compared to the \$39,681,000 listed in the report). And at this lower cost, even more than 39,000 acres could be converted to wetland storage during wet climactic conditions. The monetary value of benefits to wildlife and improved soils also need to be included in the benefit-cost analysis for this alternative. This would make the benefit-cost ratio even more favorable.

The report states that "Implementation of an upper basin storage program will involve construction of outlet structures, and development of an operating plan for the outlet structures...".

Our association disagrees, because we believe that there would be very few structures needed. Most of the drains consist of long shallow trenches created by small scrapers. Each drain can be blocked by creating a small soil dam at one location along the drain, for a very low cost. When the drainage easement expires, the farmer can then unblock the drain, if desired.

The only operating plan needed would be to control where the parcels of restored wetlands are located and how many are being used at any given time. The plan could be carried out by hiring a statewide coordinator within a state agency. The coordinator would determine how many contracts to have in place at any given time (by letting old contracts expire, and obtaining or renewing other contracts). The contracts could be administered by the USDA through its Farm Service Agency (FSA), since they work directly with farmers and ranchers for their routine USDA crop land and pasture land programs.

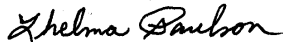
A program similar to the Conservation Reserve Program could be used. In fact USDA is currently offering a type of program for wetland restoration through is Conservation Reserve Program. This information has been included as Attachment C. (It is interesting to note that they have allocated 100,000 acres for North Dakota, compared to the 39,000 acres estimated for upper basin storage).

Summary

In summary, our association makes the following conclusions regarding the current Devils Lake Study:

1. The USACOE has failed in their scoping process with the current Purpose And Need Statement. The statement needs to be revised to include "Improve Water Quality" as one of the main purposes of the project.
2. The Alternatives section needs to be improved to rigorously explore and objectively evaluate all reasonable alternatives. If this is not done, the entire study will be invalid.
3. The benefits and costs for all alternatives need to be revised to be more realistic.
4. The lake level can be controlled and lake water quality improved by managing the amount of Upper Basin Storage and by using an East-End Outlet. These are the common sense alternatives to consider.

Sincerely,



Thelma Paulson, President

Peterson Coulee Outlet Association
3321 54th Avenue NE
Maddock, ND 58348-9636

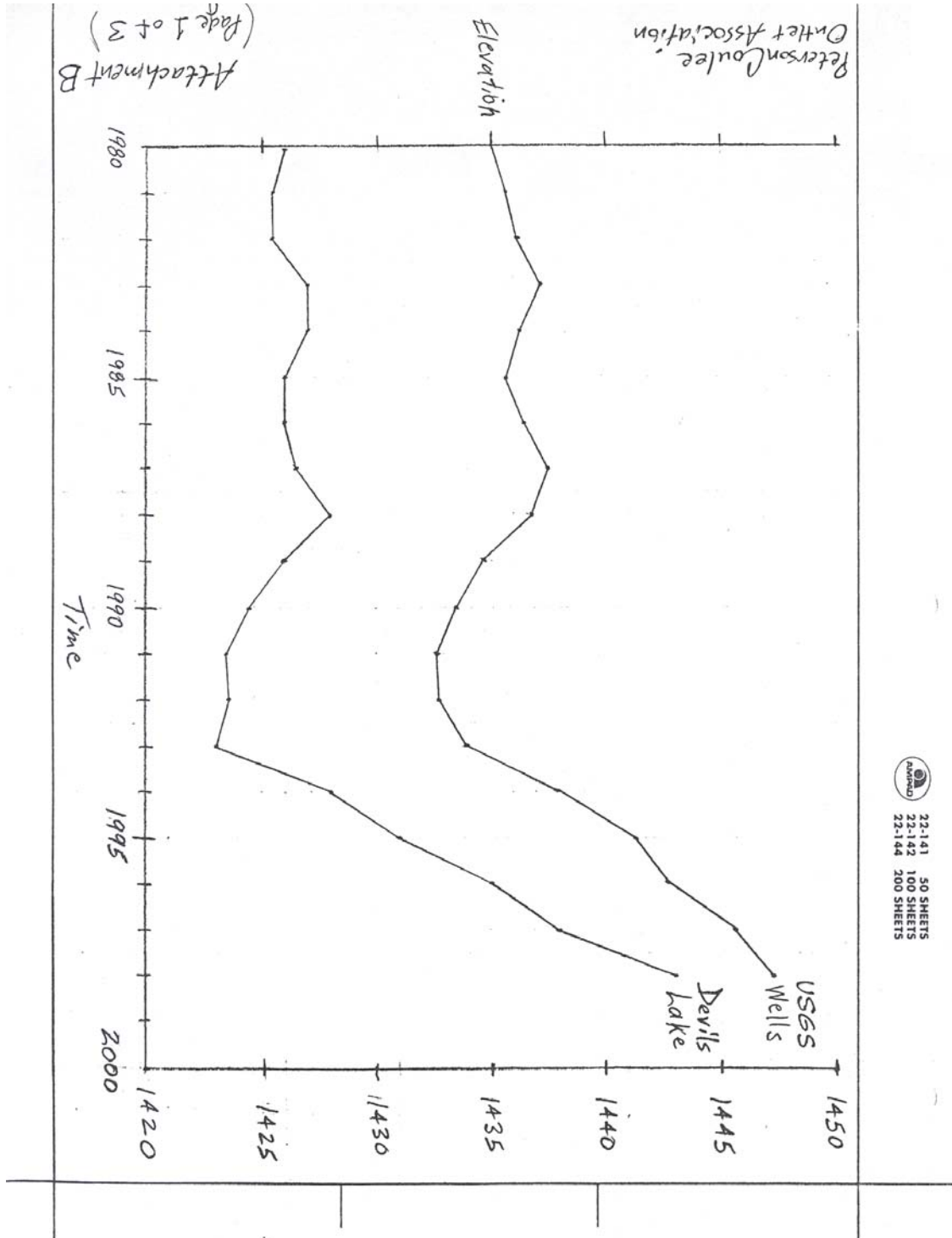
Attachment A
Attachment B
Attachment C

Alternative	Annual Benefits	Annual Costs	Benefit - Cost Ratio	Construction Cost	Operating Cost	Water Flow Method	Water Flow Rate	Lake Water Quality	Discharge Structure	Length Of Route	Land Ownership
Peterson Coulee Outlet				\$54 Million	\$1.5 Million	Pumped	Steady	Degrades	Separate	13 Miles	Private
US Highway 281 Outlet				\$46 Million	\$1.3 Million	Pumped + Gravity	Steady	Degrades	Separate	10 Miles	Tribal and State
Twin Lakes Outlet				\$25 Million	\$0.7 Million	Pumped + Gravity	Steady or Variable	Degrades	Separate	10 Miles	Tribal and Private
East Devils Lake Outlet	\$20 Million	\$10 Million	2.0	\$20 Million	\$0.5 Million	Gravity	Variable	Improves	Combined	14 Miles	Private
Stump Lake Outlet	\$25 Million	\$10 Million	2.5	\$15 Million	\$0.4 Million	Gravity	Variable	Improves	Combined	11 Miles	Private

Note: Information shown is for example, only.

Attachment A

Peterson Coulee
Outlet Association



50 SHEETS
22-141 100 SHEETS
22-142 200 SHEETS
22-144



<u>YEAR</u>	<u>LAKE ELEVATION</u>
1980	1,426.0
81	25.5
82	25.5
83	27.0
84	27.0
85	26.0
86	26.0
87	26.5
88	28.0
89	26.0
90	24.5
91	23.5
92	23.5
93	23.0
94	28.0
95	31.0
96	35.0
97	38.0
98	44.5
99	
2000	

Attachment B
(Page 2 of 3)



<u>YEAR</u>	<u>WELL 09D</u>	<u>WELL 21C</u>	<u>WELL 15B</u>	<u>AVERAGE</u>
1980	28.5	34.0	42.5	35.0
81	29.0	34.5	43.5	35.7
82	29.5	35.0	44.0	36.2
83	31.0	35.5	45.0	37.2
84	30.0	35.0	44.0	36.3
85	29.5	34.0	43.5	35.7
86	30.5	35.0	44.0	36.5
87	32.5	35.5	44.5	37.5
88	31.0	36.0	43.5	36.8
89	29.0	33.0	42.0	34.7
1990	28.0	31.5	41.0	33.5
91	26.5	31.0	40.5	32.7
92	26.5	31.0	41.0	32.8
93	26.5	33.5	42.0	34.0
94	32.5	37.0	44.5	38.0
95	37.0	40.0	47.0	41.3
96	39.0	42.5	46.5	42.7
97	43.0	46.0	48.0	45.7
98	44.5	48.0	49.0	47.2
99				
2000				

Attachment B
(Page 3 of 3)


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Conservation Reserve Program

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Conservation Reserve Program (CRP)

The Conservation Reserve Program is a voluntary program for agricultural landowners. Through CRP, you can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland.

The Commodity Credit Corporation (CCC) makes annual rental payments based on the agriculture rental value of the land, and it provides cost-share assistance for up to 50 percent of the participant's costs in establishing approved conservation practices. Participants enroll in CRP contracts for 10 to 15 years.

The program is administered through by the CCC through the Farm Service Agency (FSA), and program support is provided by Natural Resources Conservation Service, Cooperative State Research and Education Extension Service, state forestry agencies, and local Soil and Water Conservation Districts.

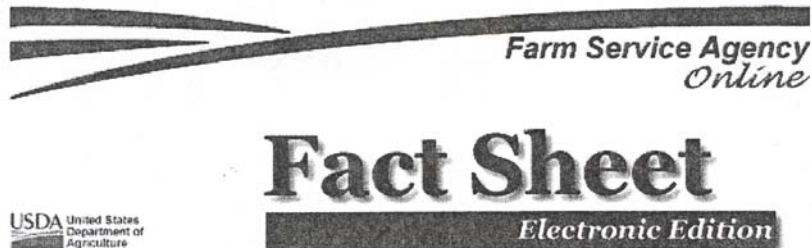
[CRP Reports](#)

- [USDA To Help Restore Wetlands Through Six-State Pilot Program \(HTML\)](#)
- [CRP Fact Sheet \(HTML\)](#)
- [Conservation Reserve Program Continuous Signup \(PDF\)](#)

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Peterson Coulee
Outlet Association

Attachment C
(1 pages)



October 1999

Conservation Reserve Program

Authorization

The Food Security Act of 1985, as amended, authorizes the CRP, which is implemented through the Commodity Credit Corporation (CCC). The program is also governed by the regulations published in 7CFR part 1410.

Overview

The CRP is a voluntary program that offers annual rental payments, incentive payments for certain activities, and cost-share assistance to establish approved cover on eligible cropland.

The program encourages farmers to plant long-term resource-conserving covers to improve soil, water, and wildlife resources. CCC makes available assistance in an amount equal to not more than 50 percent of the participant's costs in establishing approved practices. Contract duration is between 10 and 15 years.

The CRP is administered by the CCC through the Farm Service Agency (FSA). The Natural Resources Conservation Service, Cooperative State Research and Education Extension Service, state forestry agencies, and local soil and water conservation districts provide program support.

Eligible Land

To be eligible for placement in the CRP, land must be:

1. Cropland that is planted or considered planted to an agricultural commodity 2 of the 5 most recent crop years (including field margins), which is also physically and legally capable of being planted in a normal manner to an agricultural commodity; or
2. Certain marginal pastureland enrolled in the Water Bank Program.

Additional Requirements for Cropland

In addition to the eligible land requirements, cropland must:

1. Have an Erosion Index (EI) of 8 or higher or be considered highly erodible land according to the conservation compliance provisions (redefined fields must have a weighted average EI of 8 or higher);
2. Be considered a cropped wetland;
3. Be devoted to any of a number of highly beneficial environmental practices, such as filter strips, riparian buffers, grass waterways, shelter belts, wellhead protection areas, and other similar practices;
4. Be subject to scour erosion;
5. Be located in a national or state CRP conservation priority area; or
6. Be cropland associated with or surrounding non-cropped wetlands.

Ranking Criteria

Offers for CRP contracts are ranked according to the Environmental Benefits Index (EBI).

The Natural Resources Conservation Service collects data for each of the EBI factors, based upon the relative environmental benefits for the land offered. Each eligible offer is ranked in comparison to all others and selections made from that ranking.

EBI factors include:

- Wildlife habitat benefits resulting from covers on contract acreage;
- Water quality benefits from reduced erosion, runoff, and leaching;
- On-farm benefits of reduced erosion;
- Likely long-term benefits of reduced erosion;
- Air quality benefits from reduced wind erosion;
- Benefits of enrollment in conservation priority areas where enrollment would contribute to the improvement of identified adverse water quality, wildlife habitat, or air quality; and
- Cost.

Producer Eligibility Requirements

A producer must have owned or operated the land for at least 12 months prior to the close of the sign-up period, unless:

- The new owner acquired the land as a result of death of the previous

owner;

- The only ownership change occurred due to foreclosure where the owner exercised a timely right or redemption in accordance with State law; or
- The circumstances of the acquisition present adequate assurance to CCC that the new owner did not acquire the land for the purpose of placing it in the CRP.

Rental Rates

The CCC bases rental rates on the relative productivity of soils within each county and the average of the past 3 years of local dryland cash rent or the cash-rent equivalent.

The maximum CRP rental rate for each offer is calculated in advance of enrollment. Producers may offer land at that rate or may offer a lower rental rate to increase the likelihood that their offer will be accepted.

In addition, CCC offers additional financial incentives of up to 20 percent of the annual payment for certain continuous sign-up practices.

Other Payments

The CCC encourages restoration of wetlands by offering a onetime incentive payment equal to 25 percent of the costs incurred. This is in addition to the 50-percent cost share provided to establish approved cover.

Continuous Sign-Up

Eligible acreage devoted to certain special conservation practices, such as riparian buffers, filter strips, grassed waterways, shelter belts, living snow fences, contour grass strips, salt tolerant vegetation, and shallow water areas for wildlife, may be enrolled at any time under the CCC's continuous sign-up and is not subject to competitive bidding. (*See FSA FACT Sheet: Continuous Sign-Up for High-Priority Practices for further details.*)

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SUMMARY OF ACTIVE AND EXPIRING CRP ACRES BY STATE

Page 1 of 1

KCMO
REPORT ID - MEPEGG-R1U.S. DEPARTMENT OF AGRICULTURE -- FARM SERVICE AGENCY
CONSERVATION RESERVE PROGRAM
MONTHLY CRP ACREAGE REPORT
SUMMARY OF ACTIVE AND EXPIRING CRP CROPLAND ACRES BY STATE

PR

STATE NAME	ACTIVE CRP ACRES	ACRES EXPIRE 09/30/2002	ACRES EXPIRE 09/30/2003	ACRES EXPIRE 09/30/2004	WRP CROPLAND ACRES (EXCLUDES ENRP)
ALABAMA	480,782.1	31,077.3	11.5	192.6	1,345.8
ALASKA	29,475.6	.0	.0	.0	.0
ARIZONA	32.8	.0	.0	.0	120.0
ARKANSAS	159,976.9	16,399.5	56.1	.0	81,303.9
CALIFORNIA	138,663.9	3,599.8	.0	.0	55,918.6
COLORADO	2,196,473.5	22,676.8	.0	.0	3,178.2
CONNECTICUT	317.9	.0	.0	.0	80.0
DELAWARE	6,206.9	.0	.0	.0	45.0
FLORIDA	88,593.3	7,639.5	.0	.0	15,142.5
GEORGIA	313,716.3	27,600.7	.0	.0	3,267.5
HAWAII	20.6	.0	.0	.0	222.0
IDAHO	795,113.8	60,822.3	.0	.0	6,920.0
ILLINOIS	953,430.9	127,307.9	881.9	145.4	26,576.6
INDIANA	295,167.3	64,708.4	387.2	443.0	21,481.9
IOWA	1,845,692.3	186,929.9	772.9	504.7	39,612.0
KANSAS	2,656,291.2	62,263.8	1.5	7.3	6,528.8
KENTUCKY	309,011.3	23,275.2	30.0	1.2	6,522.9
LOUISIANA	204,414.6	6,374.8	196.5	37.1	123,869.9
MAINE	24,283.6	910.3	.0	.0	14.3
MARYLAND	56,141.6	1,759.9	.0	.0	85.3
MASSACHUSETTS	120.5	.0	.0	.0	39.9
MICHIGAN	303,207.5	101,929.1	47.0	38.3	7,017.7
MINNESOTA	1,657,613.3	66,559.1	1,355.2	374.0	28,202.9
MISSISSIPPI	865,852.4	41,321.6	203.2	121.8	87,182.4
MISSOURI	1,549,668.8	165,343.0	354.0	74.0	62,220.6
MONTANA	3,412,525.9	74,612.5	.0	.0	2,504.4
NEBRASKA	1,141,645.9	60,519.9	5.4	7.8	14,438.5
NEVADA	151.3	.0	.0	.0	.0
NEW HAMPSHIRE	194.6	.0	.0	.0	35.0
NEW JERSEY	2,288.5	62.2	.0	.0	345.3
NEW MEXICO	592,501.0	1,741.9	.0	.0	200.0
NEW YORK	59,279.2	5,577.1	.0	.0	15,767.9
NORTH CAROLINA	112,564.9	9,293.9	.0	.0	13,852.4
NORTH DAKOTA	3,322,728.0	27,400.5	150.8	51.0	3,478.2
OHIO	300,991.1	86,381.8	245.6	32.6	11,757.7
OKLAHOMA	1,024,890.0	28,911.2	1.9	.0	25,698.5
OREGON	453,523.5	10,452.4	.0	.0	11,025.6
PENNSYLVANIA	103,768.9	3,828.9	194.4	.0	967.7
RHODE ISLAND	.0	.0	.0	.0	.0
SOUTH CAROLINA	218,308.7	9,139.5	.0	.0	4,696.9
SOUTH DAKOTA	1,420,471.1	26,479.7	50.2	29.4	22,009.0
TENNESSEE	247,989.3	28,423.1	51.8	.0	12,574.8
TEXAS	4,039,303.4	176,609.8	.0	.0	302,645.5
UTAH	197,344.2	1,771.6	.0	.0	3,364.0
VERMONT	830.0	6.0	.0	.0	30.4
VIRGINIA	54,728.2	3,434.9	6.5	.0	877.5
WASHINGTON	1,278,001.7	58,719.4	.0	.0	9,899.1
WEST VIRGINIA	1,062.4	8.2	.0	.0	307.8
WISCONSIN	630,891.5	88,884.0	1,366.4	1,147.6	21,257.5
WYOMING	278,865.5	201.5	.0	.0	1,736.0
PUERTO RICO	671.0	.0	.0	.0	.0
NATIONAL TOTAL	33,825,788.7	1,720,958.9	6,370.0	3,207.8	1,056,368.4

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Release No. 1560.01

Dann Stuart (202) 690-0474
dan_stuart@wdc.usda.gov

USDA TO HELP RESTORE WETLANDS THROUGH SIX-STATE PILOT PROGRAM

WASHINGTON, June 4, 2001 - The U.S. Department of Agriculture today announced that signup begins today for a six-state pilot program to restore up to 500,000 acres of farmable wetlands and associated buffers. The Farmable Wetlands Pilot Program will help producers improve the hydrology and vegetation of eligible land in Iowa, Minnesota, Montana, Nebraska, North Dakota, and South Dakota. This pilot is part of USDA's ongoing Conservation Reserve Program.

Restoring wetlands will reduce downstream flood damage, improve surface and groundwater quality, and recharge groundwater supplies. Wetlands provide vital habitat for migratory birds and many wildlife species, including threatened and endangered species, and provide recreational opportunities such as hiking and birdwatching.

Eligible cropland includes farmed and prior converted wetlands impacted by farming activities. FSA will offer annual rental payments for a 10- to 15-year period, plus an upfront signing incentive payment of \$100 to \$150 per acre, depending on contract length, and a one-time practice incentive payment as a rental bonus equal to 40 percent of the eligible costs of installing the practice. The annual rental rate will be calculated to include an incentive equal to 20 percent of the normal CRP soil rental rate for the soil involved. Producers will also receive a cost-share payment that will be up to 50 percent of the actual cost of establishing the permanent cover.

The initial acreage allotment for each state is: Iowa, 100,000 acres; Minnesota, 100,000 acres; Montana, 25,000 acres; Nebraska, 75,000 acres; North Dakota, 100,000 acres; and South Dakota, 100,000 acres.

For more information and eligibility requirements, contact your local Farm Service Agency office.

#

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**THE PEMBINA VALLEY WATER
COOPERATIVE INC.**

RESPONSE

to the

DRAFT

**DEVILS LAKE,
NORTH DAKOTA**

**INTEGRATED PLANNING REPORT
AND ENVIRONMENTAL IMPACT
STATEMENT**

April 18, 2002

The Draft Integrated Planning Report and the Environmental Impact Statement prepared by the U.S. Corps of Engineers for flood relief in Devils Lake, North Dakota has been reviewed by the Pembina Valley Water Cooperative Inc. (PVWC). Your documentation has also been reviewed by Environment Canada, Fisheries & Oceans Canada and Manitoba Conservation. We concur with their comments which have been forwarded to you and we support them fully. We are providing a few additional comments reflecting the uniqueness of our position in this matter.

The PVWC which is owned by 17 municipal governments owns and operates two water treatment plants on the Red River, at Letellier and Morris, Manitoba. These plants and the one at Stephenfield provide water to a population base of 40,000, starting at the U.S. border and stretching north for more than 40 miles. We also serve the majority of the area most affected by the flood of 1997 and as such can identify with the situation that many face in Devils Lake. Our communities along the Red River also find themselves behind tall dikes as do many of the farms and they still feel vulnerable. Our residents along the Red River have a long history of dealing with flooding, a relatively new problem for Devils Lake.

On the Canadian side of the border we are the largest user of water from the Red River; it is our water supply. Following treatment we pipe it to our communities for domestic, municipal, industrial and agricultural uses. As such the quality of the water which we receive from the United States is critical to our operations and to the region we serve. We consider the water quality standards which the International Joint Commission has established for the boundary to be a minimum standard. We recognize that these standards are not always met; right now they are not met on average eight per cent of the time and this is a concern to us. The project which you are proposing and reporting on, the outlet, would raise this to 12 per cent and in our opinion it could well be higher, an increase of over 50 per cent. This is unacceptable to us, the users of this water, is unacceptable to Manitoba and Canada and can't possibly be found to be acceptable by the International Joint Commission.

It is also quite clear that with no barrier between Pelican Lake and Devils Lake being proposed, water would be drawn from Devils Lake and these exceedences and the level of exceedence would both grow over time. To state that "it would result in a small increase in the frequency and duration of events that exceed current water quality criteria on the Red River of the North" is in our opinion a serious understatement and reflects a surprising disregard for the users immediately across the border.

It is for these reasons and those put forward by Canada and Manitoba that on behalf of this region and the residents we serve, we must conclude that this artificial outlet under review cannot be justified and should not be permitted to proceed.


Dale Hoffman
Co-Chair

Pembina Valley Water Cooperative Inc.


Paul Peters
Co-Chair

Pembina Valley Water Cooperative Inc.

From: rbetting [rbetting@ictc.com]
Sent: Tuesday, April 09, 2002 11:38 PM
To: Loss, David C MVP; Loss, David C. Corps of Engineers
Subject: comments on Draft EIS

To: Mr. David Loss

Mr. Robert Anfang

St. Paul District, U.S. Army Corps of Engineers

190 Fifth StreetEast

St. Paul, MN 55101-1638

From: Richard Betting

11630 39 St. SE

Valley City, ND 58072

Re: Draft Devils Lake North Dakota Integrated Planning Report and Environmental Impact Statement; February 2002

The benefit-cost ratio of 0.37 to 1.0 (1-S-9) using a stochastic analysis indicates that the results of building this Devils Lake outlet plan will not be economically justified. The costs will exceed the benefits by a three to one margin. And downstream damages in this scenario have been minimized. Here's what the Draft EIS says:

The outlet plan that has been preliminarily selected for design is not economically justified using methods that would determine expected net benefits by producing probability-weighted benefits and costs. It would result in a small increase in the frequency and duration of events that exceed current water quality criteria on the Red River of the North. A cost effectiveness analysis of alternatives compared against various scenarios of future without project conditions was used in conjunction with the stochastic evaluations to identify an outlet plan to move forward into design. (1-S-7)

If the benefit-cost ratio is poor using a stochastic analysis, it would be even worse using a realistic fifty-year history and fifty-year precipitation projections. Congress should neither authorize nor fund this project. Assuming a 'wet scenario' is neither scientific nor logical.

The most glaring problem with the Draft EIS, however, is that the document fails to meet the basic requirements of an Environmental Impact Statement—that is, it does not include an adequate study of ALTERNATIVES. The Draft EIS fails to properly address the causes of and, therefore, the solutions to (at least in large part) the Devils Lake flooding problem.

Scant scientific data and information have been compiled to address the issue of upper basin wetlands drainage and the results of such drainage over the past fifty years on increased runoff into and adding to flooding on Devils Lake.

The Corps' **Draft EIS** bases most of its conclusions about the availability of storage in the upper basin of Devils Lake on the **West Consultants Report**. Since the **West Report** concludes that there are fewer than 100,000 acres of drained wetlands now available for storage, the implication is that only about that many acres of wetlands were drained in the first place. This figure is not scientifically supportable. The Corps **Draft EIS** fails to consider other sources of information about the results of drainage in the upper basin. First, I submit the following information about the **West Consultants' Report** from the **Draft EIS**, Appendix 2, from the U.S. Fish and Wildlife Service (page 4-2):

The West report identified approximately 200,000 acres of intact depressions and 92,000 acres of drained depressions (see Table 10.2). The Service believes the estimate of drained depressions has been underestimated by at least 50 percent. In agreement with the Service, West provided three reasons why they believe the numbers of intact and drained depressions are likely underestimated. They are:

1. The use of the NWI digital data represents only wetland boundaries, not the full capacity of the depression within which the wetland is situated.
2. A number of DEM depression polygons appeared to be smaller in area than the corresponding depressions when compared to aerial photos.
3. Both intact and drained depressions were likely missed by the DEM, especially in the 10-foot contour interval data. And the NWI data likely contains some error of wetland omission.

For the above stated reasons, WEST recommends that more intensive analysis be completed, along with a field verification, to refine the numbers.

For the above stated reasons and more, the U.S. Fish and Wildlife Service recommends that the Corps of Engineers revisit the upper basin drainage/storage problem/solution before concluding that the Pelican Lake Outlet Plan is the most feasible at this time.

Basic data: The North-Dakota-State-Legislature-created (1975) Devils Lake Basin Advisory Committee determined (1976) that the upper basin of Devils Lake originally contained 569,000 acres of wetlands. Ludden and others (1983) used 412,000 acres and the U.S. Fish and Wildlife Service used a 400,000 acre number. Whatever the original number of upper basin wetlands remains debatable. What is clear is that most sources say there are about 200,000 (or fewer) acres of wetlands remaining undrained in the upper basin.

That means there are from about 200,000 acres to 360,000 acres of wetlands in the upper basin of Devils Lake that have been drained in the past fifty years.

The U.S. Fish and Wildlife Service estimates at least 189,000 acres of drained wetlands in the upper basin. The flawed **West Consultant Report** estimate of about 92,400 acres of possibly drained wetlands needs to be revisited and refined. The **West Report** claims that these drained wetlands might be able to store about 127,835 acre/feet of water. The U.S. Fish and Wildlife Service [and common sense science] claims the figure should be at least double that, or at least 255,000 acre/feet of storage. At least.

Until an upper basin storage plan has been developed using accurate current estimates of drained wetlands acres, there is no sense discussing an outlet. Common sense concludes that with the State of North Dakota and several Federal Agencies spending millions of dollars over the past fifty years draining wetlands in the upper basin of Devils Lake—constructed for whatever social, economic or political reasons at the time—the first solution to the flooding problem on Devils Lake should be restoring a large percentage of those wetlands.

Drained wetland acres should be purchased, not leased, restored and gated so that under the proper conditions they could be managed during wet and dry cycles. Closed during wet cycles and perhaps opened during dry periods. Management must begin before water has reached Devils Lake, not after it is already there. Until the Corps' EIS adequately addresses the possibility of restoring upper basin wetlands as a technique for preventing additional flooding on Devils Lake, no outlet plans should be considered.

The negative downstream effects of an outlet—being both complex and far-reaching—have not been adequately quantified. The **Corps' Draft EIS** acknowledges this:

An outlet would have adverse effects in downstream receiving waters, including degraded water quality, increased erosion, increased sedimentation, reduced aquatic habitat value, higher river stages, minimal increased overbank flooding, extended duration in inundation, impeded river access, loss of aquatic resources, loss of riparian habitat, effects on agricultural uses, effects on water treatment facilities, social effects, cultural resource losses, effects on irrigation, and effects on Tribal resources. (1-S-8)

And this:

The present operating plan does not meet all downstream water quality standards and objectives. Any revised operating plan that attempts to reduce water quality effects would likely result in less economic feasibility. Any permits needed for compliance with water quality criteria would need to be obtained prior to construction or operation. (1-S-13)

And this:

Under periods of low precipitation, drawing water out of Pelican Lake would result in inflow to the area from Devils Lake and a worsening of the quality of water available to pump to the Sheyenne River. (Pelican Lake Alternative PL-1: 3-14)

Therefore, it is my request that neither the Corps nor Congress continue planning for an outlet from Devils Lake into the Sheyenne River until a revised Environmental Impact Statement has been completed, one in which alternatives have been adequately addressed.

I also ask that the Devils Lake project follow the principles laid down by General Robert Flowers, a copy of which follows. On March 26, 2002, Lt. General Robert Flowers, during the dedication of the Davis Pond Fresh Water Diversion Project in Louisiana, announced the U.S. Army Corps of Engineers Environmental Operating Principles to guide the Corps in all of its works.

Corps Environmental Operating Principles

On March 26, 2002, during the dedication of the Davis Pond Fresh Water Diversion Project in Louisiana, Lt. General Robert Flowers, announced the U.S. Army Corps of Engineers Environmental Operating Principles to guide the Corps in all of its works.

The Principles: Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.
Recognize the interdependence of life and the physical environment.
Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.

Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.

Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.

Seeks ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.

Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.

Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.

Background: Corps Environmental Operating Principles (3-2002)

Background: The U.S. Army Corps of Engineers has reaffirmed its commitment to the environment by formalizing a set of "Environmental Operating Principles" applicable to all its decision-making and programs.

These principles foster unity of purpose on environmental issues, reflect a new tone and direction for dialogue on environmental matters, and ensure that employees consider conservation, environmental preservation and restoration in all Corps activities.

Environmental sustainability can only be achieved by the combined efforts of federal agencies, tribal, state and local governments, and the private sector, each doing their part, backed by the citizens of the world. These principles help the Corps define its role in that endeavor.

Chief of Engineers Lt. Gen. Robert Flowers says the principles provide the Corps direction on how to better achieve its stewardship of air, water and land resources, while demonstrating the connection between water resources, protection of environmental health and the nation's security.

By implementing these principles, the Corps will continue its efforts to develop the scientific, economic and sociological measures to judge the effects of its projects on the environment and to seek better ways of achieving environmentally sustainable solutions.

The principles are consistent with the National Environmental Policy Act, the Army's Environmental Strategy with its four pillars of prevention, compliance, restoration and conservation, and other environmental statutes and Water Resources Development Acts that govern Corps activities. They will be integrated into all project management processes.

Lt. Gen Flowers'

Remarks: Lt. Gen. Flowers' 3/26 remarks at the Davis Pond Freshwater Diversion Project announcing the U.S. Army Corps of Engineers Environmental Operating Principles.

Letter of Comment – William Wood

**PUBLIC MEETINGS
DEVILS LAKE STUDY
DRAFT INTEGRATED PLANNING REPORT / EIS
8 – 10 April 2002**

COMMENT FORM: The purpose of these meetings is to present the findings of the Draft Integrated Planning Report / Environmental Impact Statement for the Devils Lake Study. Comments on the Draft Report can be submitted on this form, on a separate sheet of paper, or by email to the address below. Only written and email comments will be reproduced and responded to in the Final Report. This information will be used by decision makers in formulating a recommended plan for the Final Report. Comments can be submitted to the Corps at the following address by 22 April 2002. Email responses are also acceptable.

District Engineer, St. Paul District
U.S. Army Corps of Engineers
ATTN: PP-PM-A (Loss)
190 5th Street East
St. Paul, MN 55101-1638

david.c.loss@usace.army.mil

Please provide any comments below.

*If the water in the East Bay of Devil Lake is
so high in solid and so high true why are the
perches in Swamp Lake and East Bay of Devil Lake
doing so well*

William J Wood

-----Original Message-----

From: jack c. [mailto:wheelon@stellarnet.com]

Sent: Tuesday, April 16, 2002 11:58 AM

To: Loss, David C

Subject: comments on devils lake flooding

Has the corp ever taken into consideration all the dollars spent by the more than 200 people that was spent trying to save their homes and cottages? Plus the premiums paid for the flood insurance which shouldn't have to be. I believe each individual has probably spent more than 10000. dollars trying to save their places. Our son and I have spent more than \$50000 and are going to have to spend more if the water isn't kept at the level it is at now or below. You will probably say move. We have reached the end of the available places. Maybe the corp should just abandon the area and let us lose everything. Buffalo commons? Maybe should check with them, they probably don't want this area either. Sincerely John Crawford.

-----Original Message-----

From: heise [mailto:heise@valleycity.net]

Sent: Wednesday, April 24, 2002 9:32 AM

To: Loss, David C

Subject: Draft Integrated Planning Report Comments

Mr. Loss:

I would like to express my opinion on the Devils Lake Outlet proposal. I have been a lifelong resident of Valley City and am very familiar with the river. I have enjoyed it while fishing or canoeing on it and have cursed it when I've had to sandbag to contain it. I'm concerned that an outlet from Devils Lake going in to the Sheyenne River will bring with it unjust expenses to our valley because of increased costs in water treatment, and road and bridge repairs because of increased erosion.

Because of the makeup of the soils in our river valley, erosion is a problem when the river level is high. The banks need a rest time of low water flow for the banks to dry out, establish plant cover and heal. With year-round high water levels such as would be seen with an outlet, the banks will never be allowed to heal and massive erosion will take place.

The farm economy in our state has caused real concerns regarding the survival of the family farms and thus the survival of all of our small area businesses. Area people have worked very hard to establish one of North Dakota's first Scenic Byways and possibly its first National Scenic Byway with the Sheyenne River and River Valley as its focus. We hope that the byway will help the local farmers to prop up their farm earnings with ag-related tourism. The tourism aspect will also help all the area businesses to stabilize. We need the River and Valley to maintain its scenic beauty to survive. The detriment to the scenic beauty of the river because of the massive erosion caused by this outlet will certainly not help us to achieve this dream.

I also feel that an upper basin storage of water is needed, much like the waffle system that is proposed for the Red River Valley near Fargo. With the surface acreage of Devils Lake now, it will evaporate faster than any outlet could ever drain it anyway. I hope we have the good sense to learn from the past what happens when we try to meddle too much with the natural order of things.

Thank you for your time.

Sincerely,

Daryl Heise,

940 SW 6th St.

Valley City, ND 58072

4-19-02

To: U.S. Corps of Engineers, ND Water Commission, Devils Lake Joint Board, Spirit Lake Nation and others in leadership positions.

There is a better alternative than for the U.S. Corps and ND Water Commission to build duplicate outlets along the Peterson coulee. Rather, let the Corps build their outlet and ND build a complimentary east end outlet which would allow flexibility in operation.

A west end outlet, alone, would never allow freshening of the lakes waters and of course all outlet water is pumped, at great local cost – forever? With the addition of a gravity flow outlet from east Devils Lake or from the Jerusalem coulee, directly to the Tolna Coulee, it would be possible to blend water into the Sheyenne within water quality constraints. Non flood flow of the river at 600 CFS is considered maximum. If river flow is at 500 cfs, 100 cfs could be blended from the east end. This after Stump Lake has filled, thereby partially freshening east bay. When the river is at lower flows, fresher water could be pumped from the west outlet. Although the amount of water which could be let out from the east would be small in early years it would allow for gradual freshening of the lake and save pumping costs. This should justify the low cost of this outlet compared to building the Peterson Coulee outlet. Actually, temporary pumps could be used at the east end for several years and after freshening allows greater volume, the gravity canal could be built.

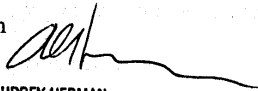
Lake levels should be maintained with more stability to enhance recreational uses and encourage development. From an environmental perspective, 1447 to 1450 would be the natural level, if, left to nature, the Tolna Coulee sand plug eroded. The present level appears ideal and accommodates existing infrastructure. Also, river flows could be maintained several years into a dry cycle for irrigation or municipal use. Hydroelectric generation should be feasible at Bald Hill with more stable flow from Devils Lake.

I hope the Corps and State Water Commission will think long term as to operating costs and balance down stream considerations with Devils Lake water quality impacts. A west end, only, outlet destines us to total pumping, forever, while the dual outlets allow an eventual fresh lake where all of the water could be let out through gravity. There is even some chance that moderating rainfall plus evaporation along with the low cost east end outlet would suffice. Let Stump Lake fill, and then start pumps at east end, within water quality parameters. Then if necessary, the corps should be ready to build.

The Spirit Lake Nation favors an east end outlet, so maybe they would cooperate with a lower cost secondary Twin Lakes outlet. At least ask them. With reduced use of Channel A, filling of Stump Lake and some use of the east end outlet, West Bay water would be freshened to the point where the expensive Pelican Lake project would not be justified for a few years slight improvement in the outlet water. The Twin Lakes outlet would more rapidly improve water in West Bay, as would that source for the Peterson Coulee outlet.

There is still time to “study” for a better result and a saving of millions.

Ardon Herman



ARDON & AUDREY HERMAN
5455 62nd AVE. N.E.
MINNEAPOLIS, ND 58351-9530
701-466-2389

-----Original Message-----

From: alletta smeby [mailto:toots_smeby@hotmail.com]

Sent: Saturday, April 13, 2002 12:03 PM

To: Loss, David C

Subject: devils lake planning

I received your letter from robert ball today, yes I have a statement to make, why are you not looking at the james river, it is just as close as the sheyenne river, you have not looked at the sheyenne river and how bad the banks are caving in in the kindred area, you people have filled the river with water from ashtubla for years, even when we are flooding from our own run off, every year when my kids graduated from high school we have had to fight high water, but some dummmmy from st paul or denver says let water out they do and that is not fair, no wonder we are so against this being run into the sheyenne, 2 weeks ago there was a deal on tv where they said the missouri river is in bad shape because the corp of engineers have done such a lousy job on it well we don't need that here too. the water will run from the james river to so. dak. instead of canada. why isn't that looked at or do you just want to prove that the government can do what ever it wants to weather we like it or not. our neighbors road is right on the edge of the river now because of flooding, the drain to the south of us is in bad shape because of flooding, the trees that have fallen into the river have not been pulled out for years you hire a crew they pick a few trees out and leave the rest but you pay them anyway. when i go to the river bank to the east of my house (500 ft) you can see them, but I suppose they don't figure you can see them so they leave it. when they do pull trees out they pile them up on our land and say they will be back to get them or burn them, well for years they lay there until they rot into the ground, but who cares it sure isn't the corp of engineers its government money which we all pay for in taxes. so look at the james river and do a surrvey on that instead of giveing us more greif here on the sheyenne.

April 23, 2002

Jim Chattin
1110 3rd Ave. NE
Devils Lake, ND 58301
(701) 662-2220

District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, MN 55101-1638

Dear Mr. Loss:

I have tried to review the "Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement, Volume 1, February 2002," with one question on my mind: Does the Benefit-Cost Ratio include the estimated cost of raising and extending the dike system that protects the City of Devils Lake? Page 2-34 of Volume 1 states that "A raise above a design level of 1454 will require major costs for interior drainage, since current pump stations are not designed for higher lake stages." But that is all it says, there is no estimate for the cost.

As I understand it the Benefit-Cost Ratio compares the \$97.7 million estimate to build the outlet with the potential total cost of damage to existing structures, loss of arable land, raising roads, and otherwise protecting threatened infrastructure, etc. But do any of your models include the cost of raising the dike to 1470-feet?

Certainly, it is much more likely that the lake will reach 1454-feet, the level at which the dike expansion will begin, than overflow at 1460. Would it not be sensible to build the outlet for \$97.7 million IF there was a chance that it might prevent the lake from reaching 1454-feet and thus preclude the need to spend x-amount for the higher, wider, and extended dike?

If the cost estimate for raising the dike is \$97.7 million--the same as the cost estimate for building the outlet--wouldn't that fact help tilt the decision-making process more in favor of an outlet?

Also, is the cost estimate for raising the dike to 1470-feet included in the overall Benefit-Cost Ratio? If not, why not?

Sincerely,



Jim Chattin

Copy to: N.D. SWC

From: Charlene Varnson [cayee@polarcomm.com]
Sent: Wednesday, May 01, 2002 9:06 AM
To: Loss, David C
Cc: Joe Belford
Subject: Comments for EIS Feasibility Study - Devils Lake
May 1, 2002

District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

This letter is to confirm our oral comments at the meeting held in Devils Lake pertaining to the Devils Lake Outlet project of the Corps, the Planning Report and EIS.

The process is too lengthy but we try to understand the need for time for the review of these important issues.

Therefore, we stand in support of the Corps efforts.

Ben Varnson, Chairman
Nelson County Water Resource District
PO Box 446
Lakota, ND 58344

p. 1 of 2

711 Lakeshore Dr. NW
Devils Lake, ND 58301
May 3, 2002

Dear Dave Loss and Corp.:

I checked in your two volume EIS Draft and could find only two pages on environmental, social and economic impacts of flood protection measures adjacent to the lake. While this was not apparently a funded portion of your study, many here believe it is a core issue.

We do not believe you have addressed sufficiently the worst case scenario should major precipitation fall (see Exhibit I enclosed.)

Worst case scenario must also include the expense for constructing a ring dike around Devils Lake. I don't think that's in your cost analysis.

Be aware that Devils Lake is a retirement haven and has many beautiful rest/nursing home facilities. Huge numbers of people would need to be moved to other arrangements should our town flood. Can't we learn from the Valley's 1997 experience with what happened to the elderly?

It is difficult (impossible) to put a cost value on the human toll here in the Basin right now. The moisture brought about by high water table means purchase of more dehumidifiers, sump pumps + the electricity to run them. Water damage to basement levels necessitate replacement of bldg. materials + flooring. Mold and mildew is now in upper Basin as well, a problem we who live at D. Lake have been contending with for many years.

Illnesses exacerbate when homes become unsanitary due to mold/mildew - the Spirit Lake Nation especially fights this.

Other issues not mentioned in your draft were addressed in a letter I wrote to many Eastern newspapers. It became a Guest Editorial in our local D. L. Journal. (Exhibit II)

There is much reference to the Save the Cheyenne spokesman, Richard Betting in that article. Please notice the part I've marked. Richard has been caught in a lie in the public record - (see Exhibit III.) Many here have written personally to him, and publicly through the media, as well as verbally. He just doesn't care about the big picture.

Personally I believe it was foolish not to build an outlet east when the water began flooding eight years ago. Fear of lawsuits, ^{trusts}, and the slowness of govt. red tape have discouraged both leaders and populace. People tell me that both the Corps's & the State's plans may in the long run be more expensive than following the natural outlet. I believe we should be entitled to the same quality of water other entities demand we send them. This can only happen if the Lake is allowed to move.

I commiserate with you over this complex problem. My dad, Maynard Dopen was a mechanical engineer and my Brother Bruce Dopen was also, before becoming a nuclear physicist.

May God bless and inspire you all.
Judy Ore

Alvin T. Gandy

*Army Corps —
If Moore shared this
with you earlier, it
might be good for
thought.*

E4

Sunday, June 18, 2000

The Forum OPINION

If deluge had fallen a few miles to the west...

Seventeen inches of rain in 17 hours. Twenty inches of rain over two days. A year's worth of precipitation drenching a vast expanse of northeastern North Dakota in just days. A deluge of biblical proportions.

Rivers — Turtle, Goose, Park — rose with unprecedented speed toward unprecedented crests. Towns are nearly isolated, flooded, even evacuated. Homes are destroyed. Lives are disrupted. At least two lives have been lost.

Forum editorials
And it happened in only hours. Overnight. Without warning. Without even a hint such a record-breaking rainfall was possible in June so far north. Speculate for a minute.

Suppose the deluge had pounded a region of North Dakota just a few miles west of where it did occur? Suppose four to 17 inches of rain had fallen on, say, the eastern end of the Devils Lake chain? Or suppose the storms had stalled over the 70-mile length of the lake system, or over the Devils Lake watershed, and dumped their astonishing floods?

First, the lake would have risen at least 1.5 feet in hours. As the runoff from the storms coursed through coulees, drains and choked wetlands, roads would have disappeared. Farms and crops would have been lost. The runoff eventually would have reached the lake, and the water elevation would have risen more and more.

(This is not mere speculation. One year in the 1970s Devils Lake rose six feet overnight as heavy spring rains and melting snow combined to generate a huge runoff.)

Stump Lake at the far end of the chain — a relatively small body of water — would have filled in a day or two, topped the natural spill-out elevation, sliced through the silted natural outlet to the Jolina Coulee, and then rushed into the Sheyenne River. Uncontrolled.

And it would have roared into the river at an ever-increasing volume, pushed by the unbelievable pressure of the rampaging and rapidly rising lake. The rampaging water would have carved the breakout

channel deeper and deeper. The only option downstream would have been to get out of the way.

Can't happen? It can. Just ask the people of Gilly, Manvel and Mekinock.

The rain storm last week in the state's northeastern counties was a wake-up call for the bureaucrats, politicians and misguided downstream interests who are blocking flood control measures at Devils Lake, specifically a managed lake outlet. It should not take a flood disaster to get the job done.

(Forum editorials represent the opinion of Forum management and the newspaper's Editorial Board.)

Can we trust Betting's numbers?

Some of the most beautiful views in the world are seen from the shore of Devils Lake. The view is so beautiful that it is hard to believe that the water is so shallow. The water is so shallow that it is hard to believe that the water is so shallow.

We've lived at Devils Lake five years, and we have seen many changes. The lake has brought the level of the water up to the level of the shore, and the water is so shallow that it is hard to believe that the water is so shallow.

And most of them are standing dead in the water. The water is so shallow that it is hard to believe that the water is so shallow.

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Guest Editorial

JUDY CORLEN
OVRE
Branch Public Policy Chair
American Association of
University Women

In 1992 there were 42,629 acres under water in upper basin sloughs etc. while 43,956 acres were under water in Devils Lake itself. Roughly the same amount of land. By 1997 Devils Lake (not including Slough Lake) had grown to encompass 100,655 acres while the upper basin had grown to 151,939. That is a 250 percent increase in Devils Lake.

The Bureau of Reclamation says that in 1992 there were 42,629 acres under water in upper basin sloughs etc. while 43,956 acres were under water in Devils Lake itself. Roughly the same amount of land. By 1997 Devils Lake (not including Slough Lake) had grown to encompass 100,655 acres while the upper basin had grown to 151,939. That is a 250 percent increase in Devils Lake.

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When drainage was instituted, it was highly encouraged by the government. It was considered prudent management to restore this fertile basin to produce as much food as possible to feed the hungry people of our world. The hungry people still exist. Today distribution is more of the problem rather than ability to produce. The priority is still valid. Anyway, this fertile agriculture basin is too important to North Dakota, the United States and the world to allow the loss of this vital contribution. This is good soil stewardship.

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Ample reliable studies on upper basin drainage exist. The Bureau of Reclamation, Barr Engineering, NDSU, the North Dakota State Engineer, and the North Dakota Water Commission

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III To Army Corps

Approved Valley City Times Record -
Dec 14, 2001 OUR READERS WRITE

Betting responds to outlet advocate's letter

VALLEY CITY — In response to Judy Goplen Ovre's T-R letter of Nov. 30, I object to being singled out as the spokesperson for People To Save the Sheyenne. As only one of many opposed to an outlet from Devils Lake, I speak and write often because I have a low level of tolerance for destructive self-serving projects and a high level of indignation. Also, I can't be fired. Besides, most others have jobs and have neither the time nor the computer.

Advocates of a Devils Lake outlet have never invited anyone from our organization to discuss the outlet issue, contrary to what Ovre claims.

The only time I went to Devils Lake to discuss outlet construction was as a member of People To Save the Sheyenne, and we were invited by the Devils Lake Nation. That was in 1998. The State at least 189,000 acres of drained wetlands in the upper basin contributed significantly to Devils

Lake flooding. Restoring upper basin wetlands could reverse the process.

Another source is the West Consultants, Inc., Final Report: Devils Lake Upper Basin Storage Evaluation (April 30, 2001). It concludes that 127,835 acre/feet of storage is available. That's not counting "depressions that were completely drained prior to 1979." Even then West said, "The runoff reduction values reported in this study are conservative."

Of course everyone interested in water quantity should read the North Dakota State Health Department's [WEB: www.healthstate.nd.us] study: Devils Lake Water Quality 1995-99.

Ovre also mentions the number of cropland acres lost to flooding since 1993. Yes, but Devils Lake basin was not alone. Most farmers in eastern

Richard Betting

May 3, 2002

← This is a portion of R. B.'s response in reference to my Guest Editorial in the D.L. Journal; He has not been truthful, and it is a part of the public record.

Most people in Valley City want a controlled outlet from Devils Lake and do not hold the views of Betting, Inc. Betting taught and sold houses and bought an octagon house 5 miles S of V.C. but it is very close to the bank of the Sheyenne River. Betting knows how to write and is a pushy person but has little understanding of basic science. Many people are quiet not because they are against the outlet but because of this vocal little group and the attacks they make. Many here are for Hoeven's plan.

Good-luck

The postcard reprinted at left was postmarked Valley City and unsigned. I believe it is instructive even so. It was just the encouragement I needed at a difficult moment.

It had been mailed to me shortly after I'd written the Nov. letter to Editors - see DL Journal enclosed clipping copy.

*This was sent to R. Betting in
late May 1999 by me.
Judy Ovre*

An Open Letter to Richard Betting

Thank you for your thought provoking letter referencing me in the Forum. I've meant to write you for sometime to let you know I too am concerned about upper Devils Lake basin draining ever since my neighbors took me on a tour of the upper basin two years ago. It was particularly interesting watching the overflowing culverts and high flows carried by channel A.

You will recall the winter and spring of 1996/97 really did a number on our region. I was amazed by the flow but I was also amazed at the 12 foot snowdrift that didn't disappear from our backyard until mid June.

Mr. Betting, I share your concern for people along the Sheyenne River. I grew up in Griggs County and have many friends and family living there. Aunt Esther Elliott of Valley City has twice experienced flooding by the angry river. My husband Harold and I have spent several pleasant Sunday afternoons at the beautiful homestead of the Shirley and Iver Lundebj who have a tree farm along the Sheyenne near Tolna. I know the area well.

Two paragraphs in your letter stand out for me. First is the one in which you say: "Odd how people complain about the problems they are having and are willing to hurt others with so-called solutions that won't really help solve the problem at all." The second is "If Ovre and others in the Devils Lake area would do their homework, they will find out where the water is coming from and do something about it." Based on your comments I submit that you really need to reconsider the whole situation, study the facts and, hopefully, adopt a new view.

If you have some free time this summer, consider bringing along a camera and two of your friends who feel as you do and to take an aerial tour of the Lake Region. I have seen the region from the air; there is water from horizon to horizon. Unbelievable! It's inconceivable that only a few years ago there were live mature trees along beautiful shorelines and that there were croplands and pastures where the water is now.

*I mailed this personally to him and many here said it was a waste of my stamps!
One leader calls Betting "King Richard" Ha! LOL*

*There was one invitation.
Many invitations have been issued to the Save the Sheyenne group - in print, by letter, and in person - by many of our region's citizens.*

From: Sauer [yca@ictc.com]
Sent: Sunday, May 05, 2002 4:59 PM
To: Loss, David C
Subject: Devils Lake Outlet Comments

Mr. Loss,

I oppose an outlet from Devils Lake to the Sheyenne River for the following reason:

1. The cost benefit ratio is obviously too low.
2. To be used as an insurance policy as stated in the Environmental Impact Statement, I believe not to be reasonable, as it only reduces the chance of a spill from Stump Lake by 4 to 5 percent. You will still have to build infrastructure for Devils Lake to 1458-1460, still have to pay downstream mitigation, still degrade the Sheyenne River; even if you don't exceed the standards, it makes the Sheyenne water at least twice as salty as it is now.
3. I believe it is better to spend the money for upper basin storage and irrigation in upper basin, projects like that will easily do as much to help the Devils Lake situation.
4. As for water in the future for Fargo use, this needs to be done by a pipeline from Garrison to Fargo, to protect both water quality and quantity.
5. If there ever were to be an outlet to the Sheyenne River, it should be clearly written in the Record Of Decision that there could never be an inlet to Devils Lake, it could not be used for Garrison Diversion or Devils Lake stabilization, only to reduce the Devils Lake level.

Sincerely,

Milton Sauer
4038 Sheyenne Valley Est.
Valley City, ND 58072

701-845-4044
yca@ictc.com

From: G&J mail [mark631@stellarnet.com]

Sent: Tuesday, May 07, 2002 10:32 AM

To: Loss, David C

Subject: Devils Lake Outlet

Dear Mr. Loss:

I am a landowner on the Sheyenne River southwest of McVile, North Dakota. I also hold MS and Ph.D. degrees in wildlife biology.

I am writing to express my opposition to any kind of an outlet from Devils Lake that will move water from the Devils Lake Basin into the Sheyenne River system. I do not need to restate all of the ecological reasons for my opposition for they have been articulated very clearly by a number of qualified and informed scientists already.

I am, of course, dismayed that the most obvious solution to the Devils Lake problem, namely closing all the drains into the Devils Lake system, has been roundly ignored. I understand the reason that this solution is largely ignored is simply that no one can stand the political heat - least of all the politicians. And, so as usual, the solution of choice turns out to be the one that has the least political opposition - in this case an outlet leading to the Sheyenne.

Glen Sherwood
10934 22nd Drive
Pekin, North Dakota 58361
(701) 322-4927

May 7, 2002

District Engineer
St. Paul District, Corps of Engineers
190 Fifth Street East
St. Paul MN 55101 – 1638

Attention: Mr. Dave Loss, PM-A

Dear Mr. Loss:

**RE: DRAFT INTEGRATED PLANNING REPORT / ENVIRONMENTAL IMPACT
STATEMENT FOR THE DEVILS LAKE, NORTH DAKOTA STUDY, FEBRUARY 2002**

The draft EIS report clearly indicates that there is no immediate need for an outlet from Devils Lake. Drought conditions are very apparent to our west in Montana and also to our east. A recent State Water Commission meeting reported that there is a 50% chance that Devils Lake may already have reached its peak for 2002. Usually the peak is reached in August, so this news comes as relief to both proponents and opponents of a Devils Lake outlet. It may well be that Devils Lake will drop 2 or more feet in elevation this year alone.

The draft EIS report grossly underestimates the impact of upper basin drainage on Devils Lake flooding. A recent report by an unbiased hydrologist indicated up to 6 times more storage available than what is suggested in the EIS report. The farmers that have drained thousands of upper basin acreage should not be allowed to benefit while downstream impacts of an outlet will damage property, degrade water quality, and increase erosion. Drains should be closed and a moratorium on all draining in the upper basin enforced. Restoration of wetlands in the upper basin will do more good than will an outlet, and it will do it without harming the Sheyenne River ecosystem.

A major concern of the proposed Devils Lake outlet is the increased potential for flash flooding in the Sheyenne River Valley. If conditions are ripe with saturated soils and a channel full of Devils Lake water, heavy rains will cause catastrophic consequences from flash flooding, loss of property, access to property, infrastructure damage, and possible loss of lives.

An outlet from Devils Lake will result in a very high water table along the Sheyenne, and result in the failure of many septic systems at homes and farms downstream from Devils Lake. This is not a pleasant situation to say the least. The high water table also will result in the tremendous loss of valuable trees along the river that could take a hundred years to replace.

The bank erosion from the last decade of high water on the Sheyenne River has been absolutely terrible, with hundreds of trees falling into the water and buildings threatened by caving banks. Any additional water that would be pumped into the Sheyenne River from Devils Lake would have a detrimental effect on future bank erosion problems and damages to property.

Finally, it is clear that the political posturing by the State Water Commission and the North Dakota Delegation is intended to ram this project down people's throats without knowing the

real effects an outlet will have on downstream interests. Adequate studies need to be done to answer questions raised in the draft EIS.

I implore you to “look before you leap”, conduct the proper studies, and then evaluate alternatives to a Devils Lake outlet. Building an outlet will destroy the Sheyenne River ecosystem forever.

Thank you for the opportunity to respond to the draft EIS.

Sincerely,

William Buck
P.O. Box 381
Valley City, ND 58072

From: NStessman
Sent: Tuesday, May 07, 2002 4:35 PM
To: david.c.loss@usace.mil
Subject: Comments-DLO

David C. Loss

David,

Thanks for your quick phone response today. I appreciate the opportunity of sending my comments via email.

Neil Stessman

May 7, 2002

Colonel Robert L. Ball May 7, 2002
District Engineer
St. Paul District
U. S. Army Corps of Engineers
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear Colonel Bell:

I would like to request that these comments be considered with respect to the U. S Army Corps of Engineers February 2002 Draft Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement (DEIS).

On the basis of the information presented and, perhaps more importantly, the absence of important information, I must express strong opposition to the construction and operation of an outlet as proposed. The Corps seems to have made a number of inappropriate assumptions in support of the alternative of construction of an outlet. I believe these are leading to conclusions which are based on less than objective criteria. The document fails to adequately address a number of very important and vitally significant considerations. Much more thorough and comprehensive analyses are needed.

1. The effects on the Sheyenne River would be devastating, yet they are barely dealt with in the report. The operation of the Pelican Lake outlet would result in a nearly complete change in the flow regime of the river, including tremendous changes in the warm season flows. There would be both greater erosion and, in places, greater sedimentation. The entire scope of its geomorphology would be altered.

There would also be adverse effects on water quality. Significant changes in the aquatic community can be expected.

The reach of the river above Bald Hill Reservoir is an especially attractive and beautiful river, a treasure. I am opposed to it being offered up as a sacrifice for a purpose which is so lacking in justification. Flooding is likely to increase and additional damage to private property surely must be expected to result from this ill-advised proposition.

The U. S. Bureau of Reclamation is conducting a study of the water supply needs of the Red River Valley pursuant to the Dakota Water Resources Act of 2000 (DWRA). They're also mandated to identify alternative means of meeting the future water supply needs of that area.

One of the alternatives which they are committed to identify and thoroughly assess is the importation of Missouri River water into the Sheyenne. That alternative would consist of diverting water from the Missouri River and discharging it into the Sheyenne River for use downstream on the Red River. It is clear that the DWRA activity and the proposition for discharging water into the Sheyenne from Devils Lake would impact the same resources and have compounding effects. However, notwithstanding the fact that both of these studies have been underway for some time and that they are being conducted simultaneously, there is no indication that the two administering agencies are coordinating substantially on the studies. The result is that there is high potential that the cumulative effects are not being addressed as required under NEPA.

2. The effects of a Devils Lake Outlet on the Red River are likely to be very significant and the concerns of downstream interests have not been adequately addressed. The issues of water quality and biota transfer have not been adequately dealt with and it is critical that more thorough analysis and research be completed to ensure that the Boundary Waters Treaty of 1909 (BWT) will not be violated. In addition, strong deference should be given to the concerns of the State of Minnesota with respect to the impacts which might be expected in the Red River. There is at this point just too little known and too much undefined for a decision of this significance to me made.

3. The DEIS is technically inadequate in many additional respects in that it fails to provide details of environmental and social impacts of the construction and operation of the outlet.

4. The proposed outlet will have very little effect in lowering the level of the lake, surely not adequate to justify the expense.

5. The use of a "wet future scenario" such as has been done with respect to the Pelican Lake Outlet is not appropriate. It is surprising that a water resource agency such as the Corps of Engineers would for advance such a hypothesis as the foundation for an important and very costly resource decision. As a taxpayer and concerned citizen, I must object.

6. The DEIS fails to adequately address wetland drainage in the Devil Lake Basin and its contribution to the rise of the lake. Additionally, there is very considerable potential for achieving positive effects on the lake level through the restoration of some of the tremendous number of wetlands which have been drained. It is especially troubling to know that many of these wetlands were drained with the assistance of public funds. Now, public funds in the way of agricultural subsidies are being utilized to support the farming of thousands of acres of former wetlands which, had they been left in their naturally created condition, could be contributing to the mitigation of the higher lake levels associated with the recent wet cycle.

7. In general, the proposition that impacts will be monitored instead of mitigated amounts to a failure to comply with the basic intent of the National Environmental Policy Act (NEPA). Clearly, it is intended that federal agencies are to assess and determine the effects of actions (and to inform the public of those effects) prior to making a decision.

Thank you for the opportunity to provide comments on this matter.

Neil Stessman
1106 Moon Valley Rd.
Billings, MT 59105



MINNESOTA
CONSERVATION
FEDERATION

551 Snelling Avenue South • Suite B • Saint Paul, Minnesota 55116-1525 • Phone / Fax (651)690-3077

May 7, 2002

To: Lt. General Robert Flowers
St. Paul District
U.S. Army Corps of Engineers
190 Fifth Street East
St. Paul, MN 55101-1638

Re: Devils Lake, North Dakota

Dear Sir:

The Minnesota Conservation Federation (M.C.F.) has reviewed the document, "The National Wildlife Federation comments on the Corps of Engineers North Dakota Planning Report and Environmental Impact Statement" regarding Devils Lake.

The Minnesota Conservation Federation has participated in discussions on this issue between U.S. and Canadian interests for several years. It is the position of the M.C.F. that construction of an outlet from Devils Lake to various rivers in the region will create flooding problems in the Minnesota rivers as well as transporting polluted waters in Minnesota and ultimately across the border into Lake Winnipeg.

It is our view that "dumping" your runoff over the hill and letting the other guy suffer is no longer a solution.

We believe if the folks in North Dakota spent the funding of a bypass for restoration of the thousands of wetland acres they drained over the past years, the problem of high water in local lakes would be diminished.

Attached is a resolution the on this issue passed by the Minnesota Conservation Federation membership at its annual meeting in 2001. We fully support the document titled "Comments of the National Wildlife Federation on the U.S. Army Corps of Engineers, February 2002, Devils Lake, North Dakota integrated Planning Report and Environmental Impact Statement."

Dave Moran

Dave Moran
Past President,
Minnesota Conservation Federation

cc: Noah Hall, Minnesota Center for Environmental Advocacy

Publishers of Minnesota Out-of-Doors • State Affiliate of the National Wildlife Federation

**Minnesota Conservation Federation
Resolution # 5
Transferring Water into Watersheds
2001**

WHEREAS, some states, like North Dakota, are attempting to divert water from one major watershed to another major watershed; and

WHEREAS, the diverted water may have undesirable biota; and

WHEREAS, water conservation programs should be put into practice.

NOW THEREFORE BE IT RESOLVED, that the Minnesota Conservation Federation at the Annual Assembly, September 7, 8, & 9, 2001 in Grand Rapids, Minnesota requests all state and federal legislative bodies not to grant state or other government agencies or private companies the authorization to transfer water from one major watershed to another major watershed.



SPIRIT LAKE TRIBE

OFFICE OF THE TRIBAL CHAIRMAN

PO Box 359 • FORT TOTTEN, ND 58335 • PHONE: 701-766-4626 • FAX: 701-766-4126

May 15, 2002

St. Paul District Corps. of Engineers
Attention: Dave Loss
Sent VIA Fax (651) 290-5258

Re: Letter from the "Spirit Lake Alliance"

Dear Mr. Loss,

In response to your facsimile dated May 14, 2002, you informed me that you would like to know how to treat the comments made by a number of residents of the Spirit Lake Nation. I have had an opportunity to review a copy of the letter dated May 6, 2002 concerning the 2002 Draft EIS Report and it is clear that the letter does not represent any formal opinion of the Spirit Lake Tribe, rather, the letter outlines and addresses the feelings and concerns of private residents of the Spirit Lake Reservation with respect to the topic of the letter. Consequently the letter you received that is dated May 6, 2002 from the "Spirit Lake Alliance" should be treated as you would treat any response from a private citizen or organization and should, under no circumstances be construed as a response from the Tribal Government for the Spirit Lake Tribe.

Sincerely,

Phillip G. Longie
Phillip G. Longie, Chairman
Spirit Lake Tribe

SPIRIT LAKE NATION

P.O. Box 222, St. Michael, North Dakota 58370

May 6, 2002

Mr. Robert Anfang (EIS)
St. Paul District, U.S. Army Corps of Engineers
190 Fifth Street East
St. Paul, Minnesota 55101-1618

RE: Tribal Response to 2002 Draft EIS Report

Dear Mr. Anfang:

We enclose supporting documentation on the opposition of an outlet within the jurisdictional boundaries of the Spirit Lake Nation

The Spirit Lake Nation submits tribal comments on the Spirit Lake, North Dakota Integrated Planning Report and Environmental Impact Statement to address flooding problems associated with Spirit Lake. For future reference and constructive dialogue with the Spirit Lake Nation on the 'Lake', it is imperative that we acknowledge the relationship between culture and the environment to fully understand proper usage and meaning of the Dakota word (Mni Wakan – Sacred Water/Spirit Lake). The early Europeans who colonized this region in the late 1800's understood the proper Dakota name for the Lake but chose to dismiss the cultural interpretation as an abstraction that was not 'real'. This allowed State and Federal government entities from the past to the present to overlook the obvious physical manifestations of the Dakota culture as a unique political and legal sovereign authority. As governments, the relationship between federally recognized Indigenous Nations and federal government is strongly encouraged to maintain meaningful consultation and coordination of issues.

This letter will address specific components of the draft EIS report, which is what the Spirit Lake Nation requested in 1996 to the present. There is conflicting provisions about the environmental impact statement report and the applicability of reinforcing the need for consultation and clarification of agency role, when a federal decision is granted on the construction or denial of an outlet.

Overview of EIS Report

The general description of the study area/base conditions for the Spirit Lake basin suggest and recommend a range of approaches, methods and solutions in addressing flooding issues. Prior tribal testimony and meetings with specific federal and state agencies on the outlet remain consistent with official tribal resolutions to support the natural flow of the water. Moreover, the cultural and social impact to tribal resources is not thoroughly understood much less translated by your agency in the EIS report to better assess federal Indian law and policies, tribal culture, and the unique governmental structure of Spirit Lake Nation or any federally recognized Indian Nation. This is particularly important for decision-makers directly involved in the planning and formulation of long-term flood mitigation of Spirit Lake. For example, section two and three of the EIS report raise questions on the binding obligation upon the United States to recognize Spirit Lake Nation as a sovereign authority as we review federal trust services over a seven year period. Has the consensus policy, which requires Spirit Lake Nation consent to any extension of state jurisdiction over environmental planning projects within the defined treaty boundaries been protected in the interest of the Tribe by the federal government? The historical record for recent legal actions and political decisions against Spirit Lake Nation by state entities requires a dramatic and justified analysis of determining what flood relief projects have worked to the benefit of the Tribe. According to written documentation the Army Corps of Engineers met in 1965 with federal and state officials on flood relief efforts without consulting the Spirit Lake Nation to get involved in watershed management of the upper basin of Spirit Lake. Some of these upper basin wetlands and prairie potholes were eliminated in favor of diverting the water to Channel A and other drainage means. The EIS report suggests appropriate solutions to mitigate for flooding without addressing the underlying issues that exacerbated the current flooding to tribal homelands and exterior boundary regions of the upper basin.

The cost effectiveness of an outlet at the west-end or east-end has more than doubled, while federal allocations in the meantime have addressed mitigation in the area of buyouts, flood proofing, raising roads, relocation of residential homes, and temporary dikes. To our knowledge, no tribal landowner has been compensated for storing water on their property unlike upper basin landowners receiving federal support. Flood damage compensation for the loss of tribal homelands went unheeded by both federal and state agencies authorized to manage federal appropriations processes for county, state and tribal governments affected by the damage lake levels. This lack of action prompted Spirit Lake Nation to find long-term flood control solutions and remedies.

The concerted effort of Spirit Lake Nation and the Spirit Lake Basin Alliance to provide testimony on several occasions to North Dakota Congressional delegates and the National Environmental Justice Advisory Council represented a turning point for the Army Corps of Engineers to address the controversy of the proposed outlet project. We welcomed the opportunity to have our viewpoint acknowledged in the planning or review process for an EIS study. However, the EIS report is contradictory if not questionable on the social analysis of tribal community concerns. The rising lake levels of Spirit Lake in no way contributed to the rising suicide and alcoholism statistics as suggested in this report or by outside agencies. There was considerable tribal discussion on this sensitive issue, which remained confined to appropriate tribal authorities to explore further for potential legal action. Upon further review of the EIS report, the social effects related to health, unemployment, transportation and economic inflation were fairly concluded by explaining how the local entities managed an enormous responsibility. The lack of reporting on tribal land compensation, tribal dikes for the impacted areas (i.e. St. Michaels, Crowhill, Fort Totten and Woodlake) and tribal involvement in upper basin management concerns related to illegal draining into the Lake strongly suggest an environmental injustice. Lest we forget, environmental justice incorporates the disproportionate impact analysis on communities of color subjected to state or federal political decisions. The variables used in calculating the disproportionate ratios of affected communities of color (Spirit Lake Nation) began with the U.S.E.P.A. Region VIII study in 1998. Sufficient data and tribal contribution to the authorized agency (U.S.E.P.A) to manage all environmental justice concerns under E.O. 12898 for all federal agencies is questionable in light of this report. What is evident to the Spirit Lake community is the different perceptions by an authorized agency who fails to identify potential environmental injustices because a bureaucratic analysis that uses a technocentric outlook on the cultural implications and environmental degradation concerns to tribal homelands is in conflict with itself. The compilation of tribal documents on specific federal agencies involved in the planning and management of controversial projects on tribal lands identify the dynamics and relationship of the two. Spirit Lake Nation has evolved in such a way that we respond to the physical, social, and economic influences of our environment, which has equipped us with certain abilities of discernment and mistrust of state and federal bureaucracy in light of past decisions. In the process, we suffer from the disproportionate burdens of health and environmental exposure to pollutants and other substances in the environment.

Throughout the EIS report, the environmental injustice of potential outlet projects affecting tribal homelands and the quality of life for some reason is narrow in scope that it unintentionally omits many cultural factors and conflates the variety of overlapping influences that produce them.

First, the cultural and political boundary issues of Spirit Lake Nation are fomented by ongoing conflicts with state and federal authorities over lake ownership of the Mni Wakan. (See attachments) Secondly, there is inadequate discussion in this report to alleviate some of the tribal concerns that future interaction between federal, state and local entities involved in the decision-making of watershed management for Spirit Lake will not consider the cultural tangibles needed to help achieve a sustainable outcome. The EIS report cites an array of statistics commonly agreeable in addressing the economic, social, environmental, and health components of an environmental justice community, with almost no information on the traditional, cultural, and subsistence activities of the past and present generation of Spirit Lake Nation. From our perspective, the federal environmental standards used in this study, function under a paradigm somewhat disconnected from Indigenous Peoples and Nations based on our limited involvement with other Indigenous Nations struggling for their cultural and economic survival. Accordingly, with respect to the federal definition of 'environmental justice' used as a model tool to address the unmet needs of the Tribe, the EIS report fails to identify 'environmental injustices' of the Spirit Lake Nation. With limited discussion on the disproportionate impacts of an outlet that infringes on the sovereign interests and authority of the Tribe to preserve and protect tribal and cultural resources, the Oceti Sakowin Treaty Tribes came forward to support the Spirit Lake Nation with its treaty, environmental and cultural issues. (See attachments) Tribal resolutions remain in effect to resume future collaborative discussion with all involved entities to ensure adequate priority funding and technical assistance is granted to Spirit Lake Nation in addressing long-term flood mitigation and planning.

The overall status of Spirit Lake Nation to acquire future funding for environmental, environmental health, economic considerations, and cultural resources must remain a priority issue in the scheme of federal agency decision-making on upper basin management. Given the controversial nature of the proposed alternatives and recommendations in the EIS report by the Canadian Government, downstream States, and downstream river communities, the proposed outlet project will continue to be strongly opposed until all Indigenous concerns and issues are fairly addressed in the summary findings.

5/6/2002

SPIRIT LAKE DAKOTA NATION - INTEGRATED DRAFT PLAN EIS REPORT
Tribal opposition to an outlet: Support the natural outlet on the grounds of the
cultural significance to Indigenous Nations and Peoples

TRIBAL SIGNATURES

Timothy Longie Sr.	Benjamin Barragan
Anta C. Cough	Benjamin Barragan
Arnel Cavanaugh	Benjamin Barragan
Rodney Cavanaugh	Benjamin Barragan
June M. Littlewind	Benjamin Barragan
Lora Leeman	Benjamin Barragan
Jeffrey DeMaere	Benjamin Barragan
Julia Hagen	Benjamin Barragan
W. Gordon Longie	Benjamin Barragan
Ervey Longie	Benjamin Barragan
Delbert Allen	Benjamin Barragan
Verd Greywater	Benjamin Barragan
Gregory Johnson	Benjamin Barragan
Solomon Sherman	Benjamin Barragan
Janice Herald	Benjamin Barragan
Dante Little Wind	Benjamin Barragan
Stella Cavanaugh	Benjamin Barragan

SPIRIT LAKE DAKOTA NATION - INTEGRATED DRAFT PLAN EIS REPORT
Tribal opposition to an outlet: Support the natural outlet on the grounds of the
cultural significance to Indigenous Nations and Peoples

TRIBAL SIGNATURES

David Johnson

Infamous Dehance

Lorraine Oley Bear

Jewel Youngblood

Oliver J. J. J.

Candy Herman

Kristi Champagne

Monica Kelson

Barbara Jackson

Ellagame Gastrombois

Todd Beleske

Ben DUBOIS III



SPIRIT LAKE TRIBE

PO Box 359 • FORT TOTTEN, ND 58335 • PHONE 701-766-1243 • FAX 701-766-1280

June 22, 2001

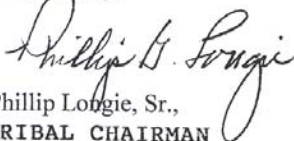
To Oceti Sakowin Conference Participants:

I extend a warm welcome to each of you attending the 2nd Annual Oceti Sakowin Treaty Conference. The Mni-Wakan Treaty Council presents written and oral testimony on a complexity of treaty issues related to land and water. We hope this tribal report will provide a historical glimpse of the past and present, which challenge the future generation of Spirit Lake Nation.

As we rapidly strengthen our economic survival skills to face these challenges and confrontation at the State and Federal government level, we must be mindful of the visions and wisdom of our ancestors who signed the Treaties with the United States Government to create permanent homelands to 'preserve and protect' the future. The tribal homelands for the Dakota people before any settlement in this region, was created by the 1867 Treaty with two latter agreements that officially recognized the Dakota people. At risk is the political and legal challenge posed by State and Federal governments over ownership of the Lake (Mni-Wakan), which is culturally and spiritually significant to many Indigenous peoples and Nations and is well documented through cultural oral history. It is our position, as caretakers and stewards of Mni-Wakan, to ensure that cultural preservation and protection of the Lake is adhered to by state and federal officials who choose ignorance over tolerance in light of the lakebed litigation. Today, we continue with a legal battle over lake ownership of Mni-Wakan with state and federal government entities, which is disconcerting because Spirit Lake Oyate has never relinquished their treaty rights and water rights. The Mni-Wakan is a precious resource with strong spiritual and cultural attributes that are being overlooked by state and federal government in favor of a political outcome on the litigation.

For Spirit Lake Nation, it is a unique opportunity if not the first occasion to participate in the Oceti Sakowin Treaty Conferences. We wish to thank you, all of our relatives, for making these Treaty Conferences possible, and thereby, giving us a tribal forum to share our voice. Let us work together in collective roles with equal responsibilities to enhance the quality of life for our people and the future generation.

Respectfully,


Phillip Longie, Sr.,
TRIBAL CHAIRMAN

SPIRIT LAKE NATION

-INVITES YOU TO JOIN OUR-

SPIRITUAL WALK

“RECLAIMING OUR SACRED WATERS”

A SPIRITUAL RE-AWAKENING OF OUR ABORIGINAL
RIGHTS TO PROTECT & PRESERVE OUR SACRED
WATERS FOR OUR FUTURE GENERATIONS....

JULY 28, 2001 - SATURDAY

LOCATION - FORT TOTTEN, ND - BEGINNING AT THE
SPIRIT LAKE CASINO MARINA PARKING LOT AND ONTO
DESIGNATED AREA - ENDING AT SITE WITH
CEREMONIAL BOUNDARY MARKING.

AGENDA

SWEATS DAY BEFORE
7:00AM - COFFEE & ROLLS
- SPECIAL CEREMONIES
8:00AM - DRUM GROUPS

9:00AM - SPIRITUAL WALK BEGINS
NOON - WALK ENDS WITH BOUNDARY
MARKING CEREMONIES.
1:00PM - RETURN TO CASINO MARINA
AREA - APPRECIATION LUNCH

EVERYONE WELCOME!

INFORMATION CONTACT: OLIVER GOURD SR. 701-766-4485,
DANA LOHNES 766-4484, ASTEL CAVANAUGH 766-1289,
ELIZABETH MORGAN 766-1897, DEMUS MCDONALD 766-1939,
ANITA CAVANAUGH 766-4466 - VOLUNTEERS NEEDED!

SPONSORED BY:

SPIRIT LAKE NATION COUNCIL & O'YATE'

*SPIRIT LAKE NATION TREATY CONFERENCE

JULY 26-27, 2001 AT TATE TOPA SCHOOL.

*ANNUAL SPIRIT LAKE O'YATE' WACIPI
(POW-WOW) COINCIDES WITH
SPECIAL DAY.

TETUWAN OCETI SAKOWIN TREATY COUNCIL
RESOLUTION OF SUPPORT FOR
SPIRIT LAKE DAKOTA

WHEREAS, The Tetuwan Oceti Sakowin Treaty Council are committed to: the enhancement of the Lakota/Dakota/Nakota world view, the protection of our culture, spirituality, cultural sites, burial sites, the environment, including water, land natural resources, and air; and our vested reserved rights guaranteed by the Fort Laramie Treaty of September 17, 1851, and the Fort Laramie Treaty of April 29, 1868; with the Lakota/Dakota/Nakota Nations, and;

WHEREAS, The "Elders" prior to and during the Federal Government Treaty process of the 1800's recognized the Tiospayes' and leaders of the Oceti Sakowin" of the Lakota/Dakota/Nakota Nations, including the signatories of the Fort Laramie Treaty(s) of 1851 and ,1867, 1868; and

WHEREAS, The descendants of the "Oceti Sakowin" concluded that the "Elders" must organize in an advisory capacity, to accept their inherent responsibility to protect the interests of the Oyate throughout the Great Oceti Sakowin, to assist in the decision making process, to represent the "Elders" in consultation regarding issues impacting our Treaty rights, Human, civil and other rights with Tribal, State, Federal or Provincial Representatives; and

WHEREAS, Treaties are identified in "Article VI of the United States Constitution as "The Supreme Law of the Land"; and

WHEREAS, Nothing contained in said Constitution gives Congress, the Executive Branch, the Judicial Branch or the States any power to curtail the sovereign power of Tribes; and

WHEREAS, The Constitution confirms the status of Tribes as governments and any curtailment of Tribes sovereign power may be only achieved with the consent of the Tribes through Treaties; and

WHEREAS, The Winters Doctrine identifies addresses and confirms; by law, Reserved Water Rights, and

page 2-Resolution of
June 26, 2001

WHEREAS, The propose plan for an outlet to drain waters from the Spirit Lake into the Sheyenne River, and

WHEREAS, The proposed plan would violate NEPA, ARPA, NHPO, as well as the Winters Doctrine, The United States Constitution and most importantly the will and plan of the Great Spirit/Wakan Tanka; and

WHEREAS, The spiritual and cultural significance of the Mni Wakan has long been recognized as a sacred and living being since time immemorial by the L/N/Dakota Nations; and

WHEREAS, the Federal and State governments are violating the 1851, 1867 and 1868 Treaty (s) of the Spirit Lake Nation; through legal litigation, thereby failing to recognize aboriginal Treaty rights, of the land boundaries and sovereign authority, and

WHEREAS, The Tetuwan Oceti Sakowin reaffirms the Mni Wakan as a sacred site, and that must be protected and preserved, and the Mni Wakan Oyate are the recognized stewards of the sacred Waters.

page 3 Resolution of
June 26, 2001

THEREFORE BE IT RESOLVED, that all Tribal representatives, Treaty Organizations and individuals listed below,

HEREBY DECLARE, the Army Corps of Engineers proposed plan is unconstitutional which will challenge the sovereignty of the Spirit Lakota Band of Dakota; and

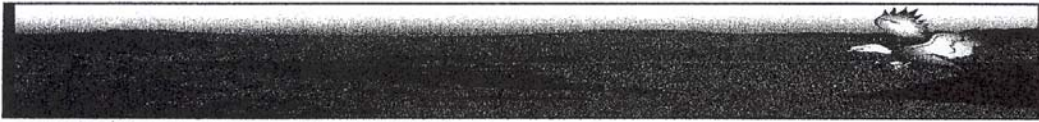
THAT the signatories of this Resolution will continue to oppose these actions until this matter is satisfactorily solved for the Dakota members of the Spirit Lake Band.

Dated this 26th day of June, 2001 at the Oceti Sakowin Treaty Conference held at Wakpala, South Dakota.

NAME	BAND
<u>Fremont Fallin</u>	<u>Sicangu treaty</u>
<u>Jeff Carlotta Sr</u>	<u>Standing Rock</u> ^{Oceti Sakowin Treaty Council}
<u>Darnell Black Bear Sr.</u>	<u>Cheyenne River Sioux</u>
<u>Myron West Arrow</u>	<u>Standing Rock</u>
<u>Delores Taken Alive</u>	<u>Oceti Sakowin - Hankpapa</u>
<u>Amogene Taken Alive</u>	<u>Oceti Sakowin - Hankpapa</u>

NAME	BAND
Mary Jane Tokasa	Oaeti Sakowin - Hunkpapa
Alta McBride	Standing Rock
Vivonne Adumson	327 Fort Thompson S.D. 57339
Joseph A. Walker	MDewakanton, Notam, Min
Phyllis Young	Hunkpapa Treaty Council, Hyatt, MD.
Gary Siff	Hunkpapa Treaty Council
Sandra Bunn	Standing Rock
Brigitte Brenn	Birdtail Dakota Canada
Ethel Bearbull	Birdtail Dakota Canada
Mary Bunn	Birdtail Dakota Sioux Canada
Viv Dier	1 1/2 1 1/2 1 1/2 1 1/2
Patricia Allen	Resident Treaty C.
Nickart, Darryl	Standing Rock Tetuwan Oaeti Sakowin
Sharon McKee	St. Paul, Min.
Gladya Bird Horse	St. Paul, MN
Rebecca Left Hand	Wakpala S.D.
Jan Brown	Wakpala S.D.
Jane Paul Allen	McLaughlin, S.D.
	McLaughlin, S.D.
	Standing Rock

Mary S. Lushnell	SRST - Hyattsville
Zedra Seaborn	Sinatra - Walston - Walpekute
Mary Good Eagle	Wakpala S.D. 57658
W. H. Alene	Little Eagle, 2. Duck.
Agaska Holy Suss	Wakpala S.D. 57658 #96
Beverly Howard	#87 Wakpala S.D. 57688



SPIRIT LAKE NATION **«»** **SPIRIT LAKE BASIN ALLIANCE**

Box 491, Ft. Totten, ND 58335 * Tel: 766-1289 * Fax: 766-1280

April 3, 2001

Department of the Army
St. Paul District Corps of Engineers
190 Fifth Street East
St. Paul, Minnesota 55101-1638

RE: Public Scoping Process

The Spirit Lake Basin Alliance was created through Tribal Resolution A05-98-032 to provide community guidance and to ensure environmental justice concerns are addressed in the proposed water projects for the Mni Wakan. The committee is comprised of tribal members, Indigenous Nations, community organizations and individuals.

Spirit Lake Nation recognizes the alliance of Sovereign Indian Nations on the long-term welfare of the Mni Wakan, which is recognized by Tribal Resolution A05-99-009 as sacred and culturally significant. The Mni Wakan (Sacred Water) represents to Indigenous Nations and Peoples the fundamental recognition of traditional values, spirituality and inherent knowledge associated with 'respect' for the land, water, and all of life. Spirit Lake Nation recognizes and respects their stewardship role of the Mni Wakan for all Indigenous Nations and Peoples, and the moral and spiritual obligation to protect, preserve and manage the Mni Wakan for future generations. The scoping process must include all interests, concerns and cultural perspective of Indigenous Nations and Peoples. Failure to disregard the cultural perspective of Spirit Lake Nation, Indigenous Nations and Peoples is failure to negotiate in good faith on the social, cultural, economic and ecological impacts associated with the proposed outlets.

Page 2.
4/3/2001

The position of the Spirit Lake Basin Alliance remains consistent with prior written and oral recommendations made at Congressional and State hearings on the proposed outlet. In accordance with Tribal Resolution A05-98-031, the Spirit Lake Tribe recognizes the urgent need to conduct environmental mitigation impact studies under the National Environmental Policy Act, the National Historic Preservation Act, Executive Orders on Sacred Sites and Environmental Justice on proposed water projects. Any proposed federal and state action on the Mni Wakan without first consulting Spirit Lake Nation, Spirit Lake Basin Alliance, Indigenous Nations and Peoples will be viewed as a direct threat against the physical, mental and spiritual well-being of the people, and their natural environment.

The past, present, and future decisions on the well-being of the Mni Wakan must include a full EIS process, and that the current Administration respect the voice of Spirit Lake Nation and Indigenous Nations.

Respectfully Yours,

Anda Kai Cavanaugh
Phillip B. Longin

Spirit Lake Basin Alliance

Anda Kai Cavanaugh
John Sherman
Jessamine Christensen
Flannery McKay
Arden Shaw
Stella Cavanaugh

Ernest Obachian
Jack Arnold

SPIRIT LAKE TRIBE
RESOLUTION NO. A05-98-032

- WHEREAS, the Spirit Lake Tribe of Indians is a federally recognized Indian Tribe, governed by a revised Constitution dated May 5, 1960 approved by the Acting Commissioner, Bureau of Indian Affairs, U. S. Department of the Interior on July 14, 1961, and as subsequently amended July 17, 1969, May 3, 1974, April 16, 1976, May 4, 1981 and August 19, 1996; and
- WHEREAS, the Constitution of the Spirit Lake Tribe generally authorizes and empowers the Spirit Lake Tribal to engage in activities on behalf of and in the interest of the welfare and benefit of the Tribe and of the enrolled members thereof; and
- WHEREAS, the Spirit Lake Tribal Council (hereinafter the Tribal Council) establishes the Spirit Lake Tribal Basin Alliance, in the interest of the tribe, and in accordance with the treaty, Constitution and the laws of Spirit Lake Tribe, and to consult with Sovereign Nations, States and National Organizations impacted by the water development projects in the upper and lower basin of Spirit Lake; and
- WHEREAS, the Spirit Lake Tribal Basin Alliance shall be comprised of five tribal members from each of the four districts to govern and coordinate basin wide issues with the community, governments, and interested stakeholders, and serve as the authoritative board for, interpretation, administration and management of upper and lower basin activities, policies and programs; and
- WHEREAS, the Tribal Council recognizes the alliance of Sovereign Nations, States, National Organizations, Indigenous Representatives, to convene with the Spirit Lake Basin Alliance board members as advisors, to provide guidance on criteria for identifying disproportionate impacts and adverse effects or environmental effects on populations, lands, and resources in the upper and lower basin of Spirit Lake, and water consumption usage of the rivers, lakes and water tributaries by States, Nation, and interest groups, and to develop environmental justice strategies that address specific concerns identified by communities within timetables; and
- WHEREAS, the Spirit Lake Basin Alliance shall develop an annual operating plan to include the budget, membership, compensation, and workgroup activities as identified through upcoming meetings; and
- NOW THEREFORE BE IT RESOLVED, that the membership of the Spirit Lake Basin Alliance comprised of four tribal members representing the four districts of

SPIRIT LAKE TRIBE
RESOLUTION A05-98-Q31
PAGE #2

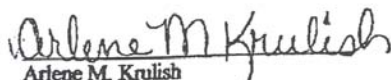
NOW THEREFORE BE IT RESOLVED, that Spirit Lake Nation supports and recognizes the National Environmental Policy Act and the requirements to ensure that the State of North Dakota, Army Corps of Engineers not exempt the NEPA process from any construction of an inlet and outlet in the Spirit Lake Basin; and


BE IT FURTHER RESOLVED, that the creation of the Spirit Lake Basin Alliance opposes the diversion of Missouri River Water out of the basin via in the absence of a complete and comprehensive analysis of alternatives consistent with NEPA and all affected stakeholders; and

IT FINALLY RESOLVED, that the Spirit Lake Tribe and the Spirit Lake Basin Alliance calls on Congress, the Executive Branch, and the Sovereign Nations to assure that no constructions of an inlet of outlet projects is initiated prior to the completion of an environmental, social and economic impact assessment study to be conducted by non-federal agencies.

CERTIFICATION

I, the undersigned as Secretary-Treasurer of the Spirit Lake Tribal Council do hereby certify that the Tribal Council is composed of six (6) members of whom five (5) were present constituting a quorum for a special meeting duly called and convened on this 5th of DECEMBER, 1997, and approved this resolution by an affirmative vote of four (4) in favor, none (0) opposed, one (1) absent. (the Secretary-Treasurer does not vote and the Chairman votes only in case of a tie.)


Arlene M. Krulish
Recording Secretary


Myra Pearson
Tribal Chairperson

Carol Brown

(1608) 288-8360

SPIRIT LAKE TRIBE
RESOLUTION NO. A05-98-031

- WHEREAS, the Spirit Lake Tribe of Indians is a federally recognized Indian Tribe, governed by a revised Constitution dated May 5, 1960 approved by the Acting Commissioner, Bureau of Indian Affairs, U. S. Department of the Interior on July 14, 1961, and as subsequently amended July 17, 1969, May 3, 1974, April 16, 1976, May 4, 1981 and August 19, 1996; and
- WHEREAS, the Constitution of the Spirit Lake Tribe generally authorizes and empowers the Spirit Lake Tribal to engage in activities on behalf of and in the interest of the welfare and benefit of the Tribe and of the enrolled members thereof, and
- WHEREAS, the Spirit Lake Tribal Council (hereinafter the Tribal Council) strongly opposes the State of North Dakota's effort to create an outlet from the Spirit Lake Basin to the Red River of the North which is on the Hudson Bay Basin, removing water from the jurisdictional boundary of the Spirit Lake Tribe, and North Dakota expresses their support to create an inlet that would remove water from the Missouri River to Spirit Lake (Northwestern North Dakota); and
- WHEREAS, Congress authorized water appropriations which includes \$5 Million in federal funding to construct an outlet as early as 1998 from the jurisdictional boundary of the Spirit Lake Tribe; and
- WHEREAS, the State of ND and Congressional ND delegates have authorized the Army Corps of Engineers to begin construction of an outlet from the Spirit Lake Basin in the absence of a complete and comprehensive analysis of alternatives as required for the environmental impact study consistent with the requirements of the National Environmental Policy Act; and
- WHEREAS, the Indigenous Nations, Three Affiliated Nations, Standing Rock Nation, Canada, downstream States and environmental organizations oppose the diversion of waters from the Missouri River Basin that could adversely impact their watershed, ecological integrity, and sovereign interests of land and water rights, and
- WHEREAS, the Spirit Lake Tribe recognizes the urgent need to conduct environmental mitigation impact studies that would ensure the preservation and protection of it's lands, people and resources by using non-federal contractors to conduct the studies; and


SPIRIT LAKE TRIBE
RESOLUTION A05-98-032
Page #2

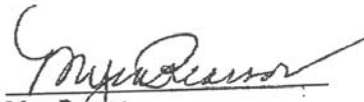
Spirit Lake Tribe, Lorraine Greybear, Crowhill District, Frank Myrick, St. Michaels District, Evelyn Young, Woodlake District, and Astel Cavanaugh, Fort Totten District, with three year term appointments, is duly authorized to function as the governmental body on the upper and lower basin issues, and to recognize the advisory Basin Alliance membership composed of Sovereign Nations, States, National Organizations, and Indigenous Representatives to provide technical guidance and direction.

BE IT FINALLY RESOLVED, that the Spirit Lake Tribal Council calls on Congress, the Executive Branch, and the Sovereign Nations, State interests to assure that full recognition of the Spirit Lake Basin Alliance is given the necessary incentives to initiate environmental justice strategies that honor, respect, and value populations, land use, water resources, energy, housing, cultural and social implications, economic needs, and health care affected by floods, water construction projects and development.

CERTIFICATION

I, the undersigned as Secretary-Treasurer of the Spirit Lake Tribal Council do hereby certify that the Tribal Council is composed of six (6) members of whom five (5) were present constituting a quorum for a special meeting duly called and convened on this 5th of DECEMBER, 1997, and approved this resolution by an affirmative vote of four (4) in favor, none (0) opposed, one (1) absent. (the Secretary-Treasurer does not vote and the Chairman votes only in case of a tie.)


Arlene M. Krulish
Recording Secretary


Myra Pearson
Tribal Chairperson

JOHN CARROLL UNIVERSITY
NORTH PARK AVENUE
UNIVERSITY HEIGHTS, OH 44118
216-397-1767
FAX: 216-397-4376

February 2, 1998

Colonel Wonsik
U.S. Corps of Engineers
Attn.: Paul Whitey
190 5th Street, East
St. Paul, MN 55101-1638

Dear District Engineer,

I have been asked by members of the Spirit Lake Alliance in North Dakota, closely affiliated with the Spirit Lake Nation (Tribal) Council, formerly known as the Devil's Lake Sioux, to forward a copy of a research report I filed earlier with various governmental and non-governmental agencies. They have also requested that I inform you of the appropriate procedures for dealing with activities on an Indian Nation.

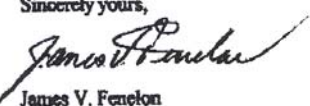
Enclosed you will find the Report on Site Observations at Spirit Lake Nation in June, 1997 based on my research investigation this last summer. In June, Dakota traditionalists asked me to visit and review the water issues at Spirit Lake Nation near the town of Devils Lake, North Dakota. On June 27th, 1997, I did so. My observations and findings are written up in the enclosed report.

Particular to that report, and ongoing plans concerning water outlets by various government offices including your own, is the need to consult with the Spirit Lake Nation (Tribal) Council concerning any proposed plans. Current federal law, as I understand it, requires that you do so. Should you have questions that you believe cannot be answered or resolved through the normal government-to-government auspices, I suggest official contact with the North Dakota state Indian Affairs Commission, or the Bureau of Indian Affairs with U.S. Department of the Interior oversight.

Currently, the Council at Spirit Lake appears opposed to plans without the direct involvement of their office. My understanding is that they have passed Resolution No. A05-98-031 and Resolution No. A05-98-032, requiring any further activity to comply with NEPA standards and to fully inform all local stakeholders, especially their tribally authorized Spirit Lake Basin Alliance. These seem quite reasonable and legal acts.

Of course, I remain at your convenience to provide further information concerning these issues. The best route is to clarify all plans with the Spirit Lake Tribe of Indians, or with one of the two offices noted above.

Sincerely yours,



James V. Fenelon
Assistant Professor

Enclosure

cc: Spirit Lake Alliance, Regional EPA in Denver, North Dakota state and U.S. federal government offices.

Report on Site Observations at Spirit Lake Nation in June, 1997

James V. Fenslon, Ph.D.

I have made an initial review of the situation at the Spirit Lake Nation, who were formerly known as the Devil's Lake Sioux (*Dakota*), compiling photographic evidence, various documents, and some ethnographic testimony concerning water, environmental, and related socio-political issues for the Dakota people residing in the area, and have found the following four major points.

Basic concerns of some traditionalists of the "Spirit Lake Nation" (the Devils Lake Sioux of the Fort Totten Reservation) are those concerning:

- 1- Use and abuse of the waters of *Mne-Wakan* (Devils Lake) under the cultural / spiritual stewardship of the Dakota people present... This is partly an American Indian Religious Freedom issue, and may include desecration and misuse of natural sites.
- 2- Proposed "outlets" and water re-disposition projects, including the Garrison Diversion, with negative impact on Indian lands, communities, and general reservation quality of life. This is partly a "trust status" or "sovereignty" issue, with the United States Government, and includes the North Dakota state legislature.
- 3- Historical and contemporary water control (dikes) and processing (treatment lagoons) leading to contamination and other negative impacts (rising water levels, land loss, etc.). This is partly an EPA (EIS needs) and BIA regulatory set of issues, requiring negotiations with the state of North Dakota.
- 4- Related "reservation" issues, including use and maintenance of state highways (Hwy 57) and roads, access to recent economic development (Spirit Lake Casino), proximity and restrictions toward health and social services supported by a diversity of funding sources. These are partly state (N.D.), Tribal Council and U.S. BIA issues.

This last point is especially problematic, with an observed "coupling" or association of state support and services, against or in lieu of local tribal opposition to state-supported water project schemes, including Garrison Diversion initiatives. If true, this would possibly lead to the state contributing toward discriminatory practices and internecine political pressures against an Indian nation and/or its people's groups and organizations.

Furthermore, water testing and environmental reviews need to be conducted, minimally, by a detached third party without interest in any outcome. Ideally, these studies would include Native American organizations and "tribal" members, possibly linked to educational endeavors.

Finally, groups like the Elders Council, affected reservation districts, and Environmental Justice Task Force members need consultation, preferably in formal review. Similar to processes in American communities elsewhere, these open meetings and consultations should be separate from any political agendas, in this case the tribal council (currently not supporting outlet plans).

Again, in a locally invited review of the Spirit Lake Nation situation, I have found four major and many secondary issues, including those with a basis of:

- cultural / spiritual issues
- sovereignty / decision-making
- environmental impact / studies
- economic development / roads

Any linkage between these issues needs to be dis-encumbered as a matter of American Indian law. Additionally, it has come to my attention that local and regional media have been misrepresenting Spirit Lake Nation Tribal Council perspectives on these issues, with some grave repercussions. Mid-July the Tribal Council continued to oppose the existing plans. Because of these issues, I recommend the following:

- decoupling any and all of the above initiatives
- conducting studies with local Native American input
- open meetings and consultations on all related issues
- inviting outside participation, especially universities

These initial steps would create increased cooperation between competing federal, state, local and tribal interests, and possibly reduce discriminatory practices. Moreover, they would ensure that proper procedural steps and fairplay be followed with any course of development. Interested organizations may then determine the level of their participation.

Related Organizations

Local:

Ecosystem Development (A. Cavanaugh)
 Elders Council (of the Spirit Lake Nation)
 Environmental Justice Task Force (at Spirit Lake)
 Environmental Quality Commission (Devils Lake Sioux Tribe)

Regional:

Indian Country Today (Lakota Times)
 North Dakota American Indian Commission
 University of North Dakota, American Indian Studies
 Offices of National Wildlife Federation and Audubon Society

National:

National Indian Justice Center
 Native American Rights Foundation (NARF)
 National Congress of American Indians (NCAI)
 National Environmental Justice Advisory Council (EPA)



Sociology Department

Phone #: (216)397-4381

Fax #: (216)397-4376

JOHN CARROLL UNIVERSITY
THE JESUIT UNIVERSITY IN CLEVELAND

To: Robert J. Whiting, U.S. Army Corps of Engineers
From: James V. Fenelon, John Carroll University
Date: September 14, 1998
Subj.: Scoping Document, Devils Lake Emergency Outlet

MEMO

On February 2, 1998, in a letter to: Colonel Wonsik, U.S. Corps of Engineers, I wrote:

I have been asked by members of the Spirit Lake Alliance in North Dakota, closely affiliated with the Spirit Lake Nation (Tribal) Council, formerly known as the Devil's Lake Sioux, to forward a copy of a research report I filed earlier with various governmental and non-governmental agencies. They have also requested that I inform you of the appropriate procedures for dealing with activities on an Indian Nation.

Enclosed you will find the Report on Site Observations at Spirit Lake Nation in June, 1997 based on my research investigation this last summer. In June, Dakota traditionalists asked me to visit and review the water issues at Spirit Lake Nation near the town of Devils Lake, North Dakota. On June 27th, 1997, I did so. My observations and findings are written up in the enclosed report.

Particular to that report, and ongoing plans concerning water outlets by various government offices including your own, is the need to consult with the Spirit Lake Nation (Tribal) Council concerning any proposed plans. Current federal law, as I understand it, requires that you do so. Should you have questions that you believe cannot be answered or resolved through the normal government-to-government auspices, I suggest official contact with the North Dakota state Indian Affairs Commission, or the Bureau of Indian Affairs with U.S. Department of the Interior oversight.

Currently, the Council at Spirit Lake appears opposed to plans without the direct involvement of their office. My understanding is that they have passed Resolution No. A05-98-031 and Resolution No. A05-98-032, requiring any further activity to comply with NEPA standards and to fully inform all local stakeholders, especially their tribally authorized Spirit Lake Basin Alliance. These seem quite reasonable and legal acts.

Of course, I remain at your convenience to provide further information concerning these issues. The best route is to clarify all plans with the Spirit Lake Tribe of Indians, or with one of the two offices noted above.

I believe this memo, with the accompanying two page site report referenced above, are appropriate to include with a Scoping Document issued by your office concerning the Devils Lake Emergency Outlet Environmental Impact Statement. I can provide further information at the following address: James V. Fenelon, Sociology Department, John Carroll University, University Heights, OH 44118 (telephone 216-397-1767).

Enclosure

cc: Spirit Lake Basin Alliance, of the Spirit Lake Dakota Nation in the state of North Dakota
Deldi Reyes, Region 8 M/C (ENF-EJ), U.S. Environmental Protection Agency

20700 NORTH PARK BOULEVARD UNIVERSITY HEIGHTS, OHIO 44118-4581

Colonel Wonsik
U.S. Corps of Engineers
Attn.: Paul Whitey
190 5th Street, East
St. Paul, MN 55101-1638

David Sprynczynatyk
N.D. State Water Commission
900 East Blvd.
Bismarck, ND 58505-0850

Deldi Reyes
Office of Enforcement, Compliance and Environmental Justice
Region 8 M/C (ENF-EJ)
U.S. Environmental Protection Agency
999 18th Street, Suite 500
Denver, CO 80202-2466

Spirit Lake Basin Alliance
c/o Frank Myrick
ICWA, Spirit Lake Nation
Fort Totten, ND 58335



Sociology Department

Phone #: (216)397-4381

FAX #: (216)397-4376

JOHN CARROLL UNIVERSITY

UNIVERSITY HEIGHTS • CLEVELAND, OHIO • 44118

July 13, 1997

Bryon L. Dorgan
U.S. Senator from North Dakota
312 Federal Building
Third & Rosser, P.O. Box 2579
Bismarck, ND 58502

Dear Senator Dorgan:

Greetings from the state of Ohio. I remember our brief interactions nearly a decade ago, and am pleased to have the opportunity to contact you again.

This letter is to accompany the "Report on Site Observations at Spirit Lake Nation in June, 1997" enclosed. I hope that this initial review study assists your own understanding of the local situation and of the Native American and Spirit Lake perspectives.

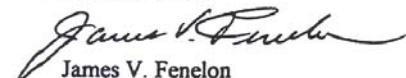
In June, Dakota traditionalists asked me to visit and review the water issues at Spirit Lake Nation near the town of Devils Lake, North Dakota. On June 27th, I did so. My observations and findings are written up in the enclosed report.

Essentially, I found that the various water project related issues also involved: Religious / Cultural Freedom, Native Nation Sovereignty, Environmental and Political / Legal, and Media problems, as of late. While more extensive work would be necessary before making analytical conclusions, my academic and professional background leads me to state that each of these major issues should be resolved before proceeding with any of the proposed water project plans.

I recognize the important influence your office enjoys in considering future steps for these issues, and have suggested to Native American organizations the benefits of keeping you fully informed.

Should I be in a position to answer any questions, or provide further information, please let me know and I will respond as soon as possible. Until such time, I remain

Sincerely yours,


James V. Fenelon
Assistant Professor

Enclosure

cc: Spirit Lake Nation Tribal Council
Environmental Justice Task Force (c/o Astel Cavanaugh)



Sociology Department

Phone #: (216)397-4381
FAX #: (216)397-4376

JOHN CARROLL UNIVERSITY
UNIVERSITY HEIGHTS • CLEVELAND, OHIO • 44118

July 13, 1997

Kent Conrad
U.S. Senator from North Dakota
312 Federal Building
Third & Rosser
Bismarck, ND 58502

Dear Senator Conrad:

This letter is to accompany the "Report on Site Observations at Spirit Lake Nation in June, 1997" enclosed. I hope that this initial review study assists your own understanding of the local situation and of the Native American and Spirit Lake perspectives.

In June, Dakota traditionalists asked me to visit and review the water issues at Spirit Lake Nation near the town of Devils Lake, North Dakota. On June 27th, I did so. My observations and findings are written up in the enclosed report.

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Should I be in a position to answer any questions, or provide further information, please let me know and I will respond as soon as possible. Until such time, I remain

Sincerely yours,

James V. Fenelon
Assistant Professor

Enclosure

cc: Spirit Lake Nation Tribal Council
Environmental Justice Task Force (c/o Astel Cavanaugh)

Executive Director
Mni Sose

Tribe:
Mni Sose Tribes of Fort
Laramie, Montana

River Sioux Tribe
Sioux, South Dakota

Crow Tribe
Montana

Ne
Montana

Sioux Tribe
Sioux, South Dakota

Shoshone Tribe
Wyoming

Santee Sioux Tribe
South Dakota

Sap
South Dakota

Tribe in Kansas
Kansas

Sioux Tribe
South Dakota

Apache Tribe
Wyoming

Shoshone Tribe
Montana

Tribe
South Dakota

Tribe
Nebraska

Tribe of Nebraska
Nebraska

Tribe of Potawatomi
Nebraska

Tribe
South Dakota

Nation of Missouri
Missouri

Tribe
Nebraska

Shoshone Sioux Tribe
South Dakota

Tribe
North Dakota

Sioux Tribe
North Dakota

Tribe
North Dakota

Band of Chippewa
North Dakota

Tribe of Nebraska
Nebraska

Tribe
South Dakota

Mni Sose Intertribal Water Rights Coalition, Inc.

P.O. Box 2890, 514 Mt. Rushmore Road
Rapid City, South Dakota 57709-2890

February 27, 1998

The Honorable Ed Schaefer
Office of the Governor
State Capitol
Bismarck, ND 58505

RE: Diversion of Flood Waters on Spirit Lake Indian Reservation

Dear Governor Schaefer:

I serve as Executive Director of the Mni Sose Intertribal Water Rights Coalition. The Coalition consists of 26 Indian Nations working together in the Missouri River basin on water and environmental issues. North Dakota's Indian Tribes are integral members of Mni Sose. The Standing Rock Sioux Tribe was a founding member. Standing Rock Tribal Council representative and longtime college President, David Archambault, serves as the President of the Board of Directors. Turtle Mountain Environmental Director, Rhonda Azure, serves as the Treasurer of the Coalition. The Three Affiliated Tribes of the Fort Berthold Reservation and the Spirit Lake Nation are also active participants of Mni Sose.

The Coalition has worked with federal and state agencies on water development projects affecting the reservations of the Mni Sose Tribes. The Coalition is concerned with the proposal to divert Devils Lake water from tribal land into the Sheyenne River. I urge you to ensure that there is maximum consultation with the Spirit Lake Tribal Council to any decisions on this issue.

Upon request of the Spirit Lake Nation, Mni Sose has reviewed the Army Corps of Engineers' Emergency Outlet Plan dated August 12, 1996. The Spirit Lake Nation has voiced concern that the plan would create a situation in which tribal land would be utilized to benefit neighboring non-Indians to the detriment of tribal natural resources, without prior consultation and approval and without compensation. Unless this plan has been reviewed and concurred with by the Spirit Lake Tribal Council, the Mni Sose Coalition would strongly oppose any such plan.

The Army Corps of Engineers has historically ignored or neglected tribal concerns on natural resources issues such as those raised in the Emergency Outland Plan. The Corps has consistently sought to address immediate problems without considering the long-term impacts of its flood control measures and the secondary problems which result from its impoundment and diversion of water. Although we are sensitive to the flood suffered at Devils Lake, the Emergency Outlet Plan contains elements of this practice.

Telephone (605) 343-6084...Fax (605) 343-4722...E-mail mnisose@rapidcity.com...Internet www.mnisose.org

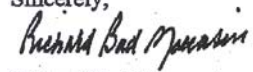
Governor Ed Schaefer
Diversion of Flood Waters on Spirit Lake Reservation
February 27, 1998

Page 2

I am requesting that consultation begin between North Dakota and the Spirit Lake Nation to identify flood control alternatives that would be mutually acceptable to tribal members and other North Dakota residents.

Thank you very much for taking my views into consideration.

Sincerely,



Richard Bad Moccasin
Executive Director

cc: Myra Pearson, Spirit Lake Nation Chairperson

Executive Director:
Richard Bad Moccasin

Member Tribes:
Assiniboine & Sioux Tribes of Fort
Peck, Poplar, Montana

Cheyenne River Sioux Tribe
Eagle Butte, South Dakota

Chippewa Cree Tribe
Box Elder, Montana

Crow Tribe
Crow Agency, Montana

Crow Creek Sioux Tribe
Fort Thompson, South Dakota

Eastern Shoshone Tribe
Fort Washakie, Wyoming

Flandreau Santee Sioux Tribe
Flandreau, South Dakota

Fort Belknap Tribe
Harlem, Montana

Kickapoo Tribe in Kansas
Horton, Kansas

Lower Brule Sioux Tribe
Lower Brule, South Dakota

Northern Arapaho Tribe
Fort Washakie, Wyoming

Northern Cheyenne Tribe
Lame Deer, Montana

Oglala Sioux Tribe
Pine Ridge, South Dakota

Omaha Tribe
Walthill, Nebraska

Ponca Tribe of Nebraska
Niobrara, Nebraska

Prairie Band of Potawatomi
Moyetta, Kansas

Rosebud Sioux Tribe
Rosebud, South Dakota

Sac & Fox Nation of Missouri
Reserve, Kansas

Santee Sioux Tribe
Niobrara, Nebraska

Sisseton-Wahpeton Sioux Tribe
Agency Village, South Dakota

Spirit Lake Tribe
Fort Totten, North Dakota

Standing Rock Sioux Tribe
Fort Yates, North Dakota

Three Affiliated Tribes
New Town, North Dakota

Ute Mt. Band of Chippewa
Belcourt, North Dakota

Winnebago Tribe of Nebraska
Winnebago, Nebraska

Yankton Sioux Tribe
Fort Yates, South Dakota

Mni Sose Intertribal Water Rights Coalition, Inc.

P.O. Box 2890, 514 Mt. Rushmore Road
Rapid City, South Dakota 57709-2890

September 30, 1998

Robert Whiting
Chief, Environmental Resources Section
Management and Evaluation Branch
U.S. Army Corps of Engineers, St. Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

RE: Devils Lake Emergency Outlet Study

Dear Mr. Whiting:

The Mni Sose Intertribal Water Rights Coalition joins with the Spirit Lake Nation and other North Dakota residents in opposing the scoping process for the Western Devils Lake Emergency Outlet Study. On behalf of its member Tribes, the Mni Sose Intertribal Water Rights Coalition provides a medium to address issues relating to the protection and development of tribal water resources in the Missouri River Basin.

The proposed Western Devils Lake Emergency Outlet scoping study must recognize the Spirit Lake Nation's concern for the preservation of traditional cultural sites and the protection of cultural resources associated with construction of the Western Emergency Outlet.

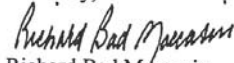
The proposed Western Emergency Outlet would violate a majority of the sacred sites of the Spirit Lake Nation without regard to tribal and Federal laws to protect these culturally sensitive areas.

In addition to the disregard for cultural preservation issues, the proposed Emergency Outlet plan diverts Devils Lake's water flows to the Sheyenne River and creates the potential for future flooding of Sheyenne River riparian areas and agricultural lands.

The Mni Sose Coalition requests the Army Corps of Engineers recognize and respect the existing Federal laws in the protection of sacred and religious sites.

Please contact me at the above address if you require additional information on this request.

Sincerely,



Richard Bad Moccasin
Executive Director

cc: Myra Pearson, Spirit Lake Chairperson
Frank Myrick, Spirit Lake Delegate to Mni Sose Coalition

Telephone (605) 343-6054...Fax (605) 343-4722...E-mail mniisce@mpidcity.com...Internet www.mniisce.org

**National Environmental Justice Advisory Council
Indigenous Peoples Subcommittee
Indigenous Resolution No. 27**

NEPA ISSUES RELATED TO SPIRIT LAKE

WHEREAS, the United States Environmental Protection Agency (EPA) a federal agency created in 1970, with the direct purpose and responsibility to develop and implement strategies that protect public health and the environment; and

WHEREAS, the National Environmental Justice Advisory Council (NEJAC) was established on April 11, 1994, and is comprised of representatives of academia, business, industry, Federal, State, Tribal, local government, environmental organizations, community groups and non-governmental organizations, with the goal of providing advice to the EPA on matters related to environmental justice for minority populations and low-income populations, and

WHEREAS, the Indigenous Peoples Subcommittee specifically addresses Tribal environmental justice issues; and

WHEREAS, the United States government and the State of North Dakota have continued to proceed with the proposed federal action to create an inlet and an outlet into "Devils Lake"; and

WHEREAS, the so-called "Devils Lake" is known as "Mni Wakān", or Sacred Water, to the Spirit Lake Nation; and

WHEREAS, it is evidently easier to despoil and degrade a natural resource named after the Devil than after Sacred Spirit; and

WHEREAS, identifying the Spirit Nation's sacred water with the Devil and condemning it accordingly is a violation of human rights and a hate crime of ethnocidal and genocidal proportions to the Spirit Lake Nation; and

WHEREAS, the U.S. Army Corps of Engineers (USACE) has requested an emergency waiver of the National Environmental Policy Act (NEPA) requirements with respect to the proposed outlet to drain Spirit Lake across Spirit Lake Nation's lands asserting that after many years of consideration the matter has become an emergency; and

WHEREAS, the National Environmental Justice Advisory Council resolved to compel governmental action by the appropriate agencies to address concerns raised by the Spirit Lake Nation and its people; and

WHEREAS, the state of North Dakota and USACE have met with tribal, indigenous, and other community representatives have failed to negotiate or to otherwise adequately consider tribal and other community input in their decision-making process; and

WHEREAS, such failure to consider input and failure to negotiate is, in essence, a failure to negotiate in good faith; and

WHEREAS, USACE and the state of North Dakota have failed to negotiate in good faith or conduct a comprehensive environmental impact statement, including the failure to identify and study the impacts of the project upon the social, cultural, economic, and ecological integrity of Spirit Lake; and

WHEREAS, Congress and the President have enacted and signed into law providing for a waiver of full NEPA processes despite information provided by the NEJAC and opposition by the Tribe; and

WHEREAS, the Congress and the President justified this deleterious action against the Spirit Lake Nation by invoking another natural and man-made deleterious event, flooding, suffered by the Spirit Lake Nation, compounding the injury to the Spirit Lake Nation; and

WHEREAS, the proposed federal action continues to pose grave threats against the physical, mental, and spiritual well-being of the Spirit Lake Nation, its people, and their natural environment;

THEREFORE BE IT RESOLVED, that the NEJAC urges the Environmental Protection Agency to advocate within the Administration for requiring a full EIS for this federal action, whether or not required by law, and that the Administration advocate for a comprehensive social impact assessment as central to the EIS.

DE IT FURTHER RESOLVED, that EPA monitor and independently assess whether an emergency permit is mandated in light of prevailing conditions at "Mni Wakān."

SPIRIT LAKE TRIBE
RESOLUTION NO. A05-99-009

WHEREAS, the Spirit Lake Tribe of Indians is a federally recognized Indian tribe acting under a revised Constitution dated May 5, 1960, approved by the Acting Commissioner, Bureau of Indian Affairs, July 14, 1961, and as subsequently amended which amendments were approved by the Commissioner, Bureau of Indian Affairs; and August 19, 1996; and

WHEREAS, the Constitution of the Spirit Lake Tribe generally authorizes and empowers the Spirit Lake Tribal Council to engage in activities on behalf of and in the interest of the welfare and benefit of the Tribe and of the enrolled members thereof; and

WHEREAS, the Spirit Lake Tribal Council (hereinafter the Tribal Council) is empowered to administer the economic resources and financial affairs of the Tribe; and

WHEREAS, the Mni Wakan (Sacred Waters) of the Spirit Lake Nation is a sacred and culturally significant site to the Spirit Lake Tribe and Indigenous Nations who maintained a fundamental recognition of the traditional values, spirituality and inherent knowledge associated with sacred waters; and

WHEREAS, the Spirit Lake recognizes the Mni Wakan as an invaluable, endangered and culturally significant resource that must be preserved, protected and promoted within traditional tribal laws and management, whether on or off land within jurisdictional control of the Spirit Lake Nation, often go to the heart of what defines an Indigenous Nation as culturally and/or politically distinct; and

WHEREAS, the U.S. Army Corps of Engineers is preparing an environmental impact statement (EIS) on the proposed plan to construct an outlet that would drain waters from Spirit Lake into nearby Sheyenne River within the jurisdictional boundary of the Spirit Lake Nation, which when built, would result in significant cultural and environmental impacts; and

WHEREAS, no State and Federal agencies, nor the Army Corps have indicated any intention to acknowledge nor comply with traditional tribal laws and federal laws applicable to the proposed outlet project, in spite of the fact that jurisdictional infringement of lands, waters and cultural traditions and beliefs are at risk by said parties; and

SPIRIT LAKE TRIBE
RESOLUTION A05-99-009

Page # 2

WHEREAS, the following federal statutes, among others, will apply to the proposed outlet project; the National Environmental Policy Act, the National Historic Preservation Act, Executive Orders on Sacred Sites and Environmental Justice, Native American Religious and Freedom Act; and

WHEREAS, compliance with applicable, federal statutes, regulations, executive orders and traditional cultural knowledge and laws may serve to protect and preserve the spiritual and cultural integrity of the Mni Wakan; and

NOW THEREFORE BE IT RESOLVED, that the Spirit Lake Dakota Nation urges and recommends that the U.S. Environmental Protection Agency, EPA Administrator, Council of Environmental Quality, Congress, and other appropriate federal agencies and departments as more fully set forth below, determine the applicability of any federal statute, regulations, executive orders, aboriginal treaty rights, traditional Indigenous cultural knowledge and beliefs to proposed water projects and seek full and immediate compliance and recognition and applicable federal statutes, regulations, executive orders and the sovereign rights of the Spirit Lake Nation.

BE IT FURTHER RESOLVED, that the Spirit Lake Tribal Council, Spiritual Leaders and Elders declare the Mni Wakan (Spirit Lake) as a sacred and cultural site to the Spirit Lake Tribe in accordance with the ancestral teachings, oral and written history, traditional ceremonial knowledge passed down by generations from further encroachment, infringement of sovereign interests and rights, and significant impacts as a result of construction.


BE IT FINALLY RESOLVED, that the Spirit Lake Tribal Council urges and recommends to the attention of the Department of Interior, and specifically the Assistant Secretary for Indian Affairs the trust responsibilities to determine the applicability of the federal statutes, executive orders and regulations to the proposed water project, and seek full and immediate compliance with regard to sacred sites of the Spirit Lake Nation.

SPIRIT LAKE TRIBE
RESOLUTION A05-99-009
Page # 3

CERTIFICATION

I, the undersigned as Secretary-Treasurer of the Tribal Council, do hereby certify that the Tribal Council is composed of six (6) members of whom six (6) were present, constituting a quorum for a Regular Meeting duly called and convened on this 2nd day of OCTOBER, 1998, and approved this resolution by an affirmative vote of four (4) in favor, none (0) opposed, and none (0) absent. (the Secretary-Treasurer does not vote and the Chairman votes only in case of a tie.)


Karen Littlewind
Secretary-Treasurer


Myra Pearson
Tribal Chairperson



SPIRIT LAKE TRIBE

PO Box 359 • FORT TOTTEN, ND 58335 • PHONE 701-766-1226 • FAX 701-766-4126

May 10, 1999

Governor Edward Schaefer
Capitol Building
Bismarck, North Dakota 58508

RE: Spirit Lake Nation Damage Assessment on Flooding

Dear Governor Schaefer:

In response to your request for damage assessment costs on the infrastructure of Spirit Lake Nation and the surrounding county governments, we submit preliminary information to assist North Dakota officials in having the area declared a flood disaster community through Presidential Declaration.

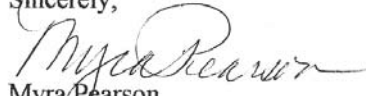
The response time (two weeks) to obtain preliminary damage assessment costs on the infrastructure of Spirit Lake Nation was insufficient for Tribal officials to conduct thorough economic and social analysis of impacted buildings, roads, sewer lines, lagoons, utilities and other areas. In addition, ND State officials stated that tribal participation in assessing damage costs of their infrastructures was non-existent since 1993. I can't substantiate the reason for minimal participation from the Tribe in sharing damage assessment costs with State officials. The Tribe did eventually share data with the State after FEMA inspections were completed. We anticipate the policies of FEMA to change in the near future as they relate to Indian Nations and will continue to work under the auspice of FEMA in cooperation with the state of North Dakota. As always the role of Spirit Lake Nation is to collaborate and consort on a government-to-government basis with all federal agencies and Nations. We have one common goal in Northeastern ND and Spirit Lake Nation to find long-term solutions that address the social, economic and ecological impacts to our communities.

May 10, 1999
Page 2.

The damage assessment costs of Spirit Lake Nation is heightened by the disproportionate impacts of flooding to vulnerable areas of the four district communities that failed to receive adequate assistance to build dikes for protection of tribal resources. Without federal funding to assist the Tribe in helping to build up our roads, public utilities, and the increased effort to become involved in the National Flood Insurance program, the level of public fear intensifies as our long-term needs go unmet or unheard. An example; the Tribe needs dike protection in the eastern section of St. Michaels to prevent twelve or more families from moving as well as additional tribal homes located near the Mission Lake. There are three lagoon cells in the vicinity of St. Michaels that require adequate protection from the rising lake levels. We are requesting adequate resources to assist us in conducting thorough economic and social analysis on damage assessment costs of flooding to the infrastructure of Spirit Lake Nation. The optimism of finding long-term sustainable solutions must include floodplain management that will both preserve and protect the infrastructure of Spirit Lake Nation to withstand further floods and high water levels. Every effort by Tribal, federal and state officials to find solutions on floodplain management of this region must include public involvement as well as increased awareness of tribal issues that have yet to find a public forum in North Dakota.

If you require additional information, please don't hesitate in contacting my office at 766-1226.

Sincerely,



Myra Pearson
Tribal Chairwoman

Cc: Tribal Council
BIA
N.D. State Health Dept.

Enclosure

April 8, 2002

U.S. Army Corps of Engineers
St. Paul District
190 5th Street East
St. Paul MN 55101-1638

Robert Anfang:

I wish to commend the Corps of Engineers for all of the detailed work that they put into the Devils Lake Integrated Planning Report. This EIS states that a Devils Lake outlet is not financially viable at this time. It also states that an outlet from Pelican Lake would have an adverse effect on the Sheyenne River. These statements are what we had expected and hoped for over the past few years.

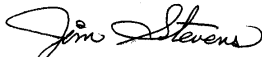
I make my living off the land in the Sheyenne Valley and urge you to use extreme caution while considering any outlet from Devils Lake. With an outlet it may take 10 years or more to see the extent of down river damage.

At this point in time there is a tremendous demand for each tax dollar. Every elected official and every government agency needs to carefully study each new project that puts this country further in debt.

We have just experienced a very dry mild winter and El Nin'o predictions are for another warm and dry fall and winter in the northern plains. Montana is looking at a fourth dry summer and much of Canada expects their driest summer ever. These predictions give the Devils Lake basin a reprieve and maybe an end to the recent wet cycle, yet proponents of an outlet are frantically running around eastern North Dakota trying to renew support. One wonders if they want to get it built before the lake gets higher or before it recedes lower.

Outlet proponents are not concerned about recovering land that is now flooded, they want an outlet to only lower the lake about 5 feet. That is the reason very little has been done about upper basin storage. Mark my words: If an outlet was in place and we enter a dry cycle, these same people would be trying to drum up support for an inlet from the Missouri River to maintain their lake level.

Respectfully yours,



Jim Stevens
4423 County Road #21
Valley City ND 58072

William Moore
Box 194
Rogers, ND 58479
701-646-6280

May 5, 2002

District Engineer
St. Paul District, Corps of Engineers
Attention: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Re: Comments on the Draft Environmental Impact Statement, Devils Lake, North Dakota,
February 2002.

Dear Mr. Loss:

This Draft EIS is riddled with faulty assumptions, inadequate research, and a failure to adequately consider alternatives to an outlet into the Sheyenne River. According to the dictionary a sham is a substitute, imitation or counterfeit purporting to be the real thing. This report probably qualifies as a sham.

It appears that the Corps of Engineers is promoting an outlet rather than conducting an objective analysis of the Devils Lake problem and seriously considering alternatives. Even with inflated land values for land with the potential to be inundated and underestimating potential damages downstream, stochastic modeling predicts a benefit-cost ratio of 0.37.

By using the wet scenario a benefit-ratio of 2.63 is indicated. Where is the scientific evidence to support such a scenario? "Repeating the wettest 7 years in recorded history back-to-back until the lake spills out of the basin seems to be a manufactured attempt to create a disaster large enough to justify the project." (14-6) Project proponents suggest that using the wet scenario, no matter how remote the probability, justifies the project as an insurance policy. When considering an insurance policy, the costs, potential benefits, and the probability of the event occurring should be considered. Even when using the wet scenario, which is pure speculation, the probability of the lake reaching 1459 msl is very low and the probability is reduced very little with an outlet. The effect of a constrained outlet in reducing the rise of Devils Lake has been exaggerated, especially with the wet scenario, because the Sheyenne River would be at capacity much of the time so an outlet could not be used. If an outlet is to be effective in reducing lake levels it would have to be of large capacity and unconstrained, thus destroying the river at a tremendous economic and environmental cost.

The plan to use Pelican Lake as a source of water for an outlet is an admission that much of the water entering Devils Lake is the result of drainage in the upper basin so it seems to be more logical and cost effective to fully utilize storage in the basin before considering an outlet.

In the DEIS, page (5-47) it is stated that "the accelerated decline the lake elevation would represent a loss of spawning or nursery habitat earlier than expected, but again only a 2-3 year difference at most elevations when compared to the without outlet condition." If the lake level is declining, what is the justification for accelerating the rate of decline with the resulting negative impacts on the Sheyenne and Red Rivers? Where would this water come from, Pelican Lake or return flows from Devils Lake?

Outlet proponents want their cake, but want to eat it too. They want to manage an unmanageable lake to maximize the multimillion dollar fishery and recreation industry without suffering the impact of increased lake levels. Rather than reducing inflows they want to pass the problems downstream at the expense of the taxpayers and the rivers. If the goal is reducing flooding every effort should be made to reduce the lake level as much as possible to create maximum storage capacity by reducing inflows.

I am especially concerned with the impacts an outlet would have on the Sheyenne River. Even with the best data it would be very difficult to predict the effects an outlet would have on the river and what the costs would be. Many of the impacts cannot be mitigated or have a dollar value placed on them. The data used in the DEIS to evaluate the impacts an outlet would have on the Sheyenne River is completely inadequate. Much data is completely lacking, much is outdated and the few new studies are not adequate and/or are not completed. How can the project be evaluated before the studies are completed, or based on "limited ground water studies" (5-57) or "The degree of change that may occur due to changes in soil conditions cannot be quantified at this time" (5-58)?

There is a need for more research and data on the Sheyenne River and the potential impacts of an outlet. There is very little known about the invertebrate fauna. The limited research on the macro invertebrates by Dr. DeLorme of Valley City State University is a good start, but it is too little, too late. Several years are needed to gather the base line data before predictions can be made on the impacts of outlet flows.

Mussels are good indicators of environmental quality because they are relatively easy to study and are very sensitive to environmental changes. If mussels are adversely impacted, it is likely that many other species, both plant and animal will also be affected. Most of the mussel data used in the DEIS is from research conducted in the 70's and 80's and much of it from river systems other than the Sheyenne.

Even after considering the poor data available, much of the interpretation in the Corps section of the DEIS is speculation, with "what ifs," "maybes," "not expected to," "no effects anticipated,"

and “based on limited modeling,” are frequently stated. If a graduate student handed in a report like this it is doubtful that it would be accepted with this terminology used to formulate conclusions. If one’s job is on the line, work of this caliber may be acceptable. Some of the interpretations are different from those of the Fish & Wildlife Service, even when based on the same data. (Division of Ecological Services)

“The threshold levels for some aquatic species, such as mussels, would be approached with operation of an outlet; however, no effects are anticipated.” (5-53) “However, the point is valid that high chloride levels may have a correlation with high potassium concentrations, which may combine to create habitats unsuitable for mussels.” (11-2) “Cvancara repeatedly indicates that high chloride levels (about 100 mg/l or more) are associated with the absence of mussels.” (11-2) “It appears that all researchers agreed that more work was needed to evaluate the effects of potassium and chloride on mussels.” (11-2) The quote from (5-53) is from the Corps and the others from the Fish and Wildlife Service Division of Ecological Services. What research is under way and when will it be completed to determine the potassium and chloride effects?

It is stated that based on limited modeling slow riffles may decline on the upper Sheyenne River while slow riffles would increase below Lake Ashtabula; (5-52) expected habitat changes to include a decline in shallow riffle. (5-54) What is the difference between slow riffle and shallow riffle that would explain how these statements make sense?

“Preliminary results show that there would be little change in the concentrations of various nutrients such as phosphorus, nitrates, nitrites, phytoplankton, organics and alkalinity, but there could be an increase in the total loading of nutrients with a Pelican Lake outlet.” (5-56) Where are the final results? “It is not expected to result in an increase in algal production in the Sheyenne River.” (5-56) Algal productivity is not expected to increase in Lake Ashtabula, as productivity is already high. (5-56) What is the potential of Lake Ashtabula becoming a nutrient trap? Where is the data on heavy metals? If mercury accumulate is of particular concern in the Red River (5-59) why isn’t it a concern in the Sheyenne River?

Changes in riffles in the river would have an impact on invertebrate and fish reproduction and distribution. In addition to the potential to become a nutrient trap, changes in the management of Lake Ashtabula could have a major impact on the fishery. Increased flows could result in more fish passing through the dam. “Higher phosphate concentrations and continued loading of Lake Ashtabula could lead to lower dissolved oxygen levels resulting in fish and mollusk kills.” (11-10)

Lake Ashtabula, the Sheyenne River and the Sheyenne Valley are a major fishery and recreation area. Increased summer flows, increased summer flooding, increased bank erosion, and the loss of riparian habitat, especially woodlands would have a severe impact on the area. In addition to local residents, tourism and the economy would be affected. Valley City is the City of Bridges and the Chamber of Commerce promotes it as a gateway to the Sheyenne Valley. The Sheyenne Valley has great potential for increased recreation and tourism. The valley is scenic, historic and

provides excellent fishing, birding and canoeing. At flows of about 350 cfs canoeing becomes hazardous rather than relaxing. Based on limited data (and studies that have not been completed) 8600 acres have the most potential for being affected. (5-57) "The degree of change that may occur due to changes in soil conditions cannot be quantified at this time." (5-58)

In a state with little woodland habitat, the loss of 1472 acres of riverine trees would have a major impact. In addition to riverbank stabilization, the riparian habitat provides much of the scenic beauty of the river and provides the habitat for many animals, especially the birds, some of which are only found in this habitat. How can a value be placed on this unique river system?

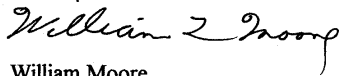
"An inventory of Natural Heritage sites in the Sheyenne River flood plain is being conducted." (5-58) When will it be completed and how will the results, along with the results of other uncompleted studies, be utilized before a Final EIS is presented for review?

There is no doubt that the Sheyenne River and its biota will be impacted by an outlet; the question is how much? "the cumulative result of all these changes would be a decrease in diversity and density on aquatic species in the Sheyenne River." (5-53)

How can the expenditure of large amounts of money on a project with limited, if any, benefits and major downstream impacts be justified? It appears that Canada, Minnesota, and many organizations oppose the project. Maybe it is considered as one of the Corps' worst projects for good reason.

Considering the current climatic conditions and the need for further research I urge the Corps of Engineers to abandon plans for an outlet. If this is not done, research on the river should continue, emphasis on upper basin storage should be increased, and a final decision on an outlet should be put on hold for several years.

Sincerely,

A handwritten signature in cursive script that reads "William Z Moore".

William Moore

**PUBLIC MEETINGS
DEVILS LAKE STUDY
DRAFT INTEGRATED PLANNING REPORT / EIS
8 - 10 April 2002**

COMMENT FORM: The purpose of these meetings is to present the findings of the Draft Integrated Planning Report / Environmental Impact Statement for the Devils Lake Study. Comments on the Draft Report can be submitted on this form, on a separate sheet of paper, or by email to the address below. Only written and email comments will be reproduced and responded to in the Final Report. This information will be used by decision makers in formulating a recommended plan for the Final Report. Comments can be submitted to the Corps at the following address by 22 April 2002. Email responses are also acceptable.

District Engineer, St. Paul District
U.S. Army Corps of Engineers
ATTN: PP-PM-A (Loss)
190 5th Street East
St. Paul, MN 55101-1638

david.c.loss@usace.army.mil

Please provide any comments below.

May 7, 2002

The Benson County Water Resource Board met in regular session

on May 7, 2002 - 9:30 AM in the Benson County Courthouse.

We go on record as being in favor of an east end outlet

for Devils Lake.

John Beardsland
Drew K. Roserick
Carl L. Oandaker

May 6, 2002

Dave Loss
St. Paul District, Corps of Engineers
190 Fifth Street East
St. Paul, Minn. 55101-1638

Dear Sir:

I have several comments regarding the draft Environmental Impact Statement for the Devils Lake, North Dakota, Outlet Study, and the project in general.

1. Increased flows in the Sheyenne will cause considerably more bank erosion. This will increase the total suspended solids in the water and may cause siltation in certain areas. Erosion will also damage roads, bridges and fences.
2. With the Sheyenne River nearly full, localized heavy thunderstorms could cause flooding to residents and communities near the river. The flow from Devils Lake could not be reduced fast enough to prevent this flooding.
3. Underground drainage of farmland east of Sheldon, N. Dak. is reduced to nothing when the Sheyenne is full. Many of the farmers in that area can not put in their crops until the river drops. With the Sheyenne nearly full, farmers would have much more trouble with planting, combining and any other fieldwork.
4. Devils Lake has risen partially because of an increase in rainfall. However I don't feel enough attention has been given to other contributing factors. How much land has been drained into Devils Lake in recent years ?? Isn't an outlet a "band aid" approach ? We should be looking at controlling drains, restoring wetlands, and changing farming practices to prevent runoff.
5. This project will not significantly lower the water level in Devils Lake, while at the same time create many serious problems for residents living along the Sheyenne River.

Sincerely,



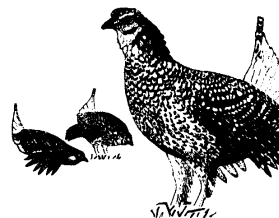
Marcia Utke
14255 49th St S.E.
Enderlin, N.Dak.



North Dakota Chapter

THE WILDLIFE SOCIETY

P.O. BOX 1442 • BISMARCK, ND 58502



May 3, 2002

District Engineer
St. Paul District, Corps of Engineers
Attn: Dave Loss, PM-A
190 Fifth Street East
St. Paul, Minnesota 55101-1638

Dear District Engineer:

The North Dakota Chapter of the Wildlife Society is an organization of professional biologists and managers interested in the natural resources of North Dakota. We would like to provide the following comments on the Draft Integrated Report/Environmental Impact Statement for the Devils Lake, North Dakota Study. The report discusses the Devils Lake outlet and flooding in the Devils Lake area. We will try submit some bulleted statements and issues to consider.

- The long term average annual streamflow of the Sheyenne River near Warwick is 62.4 cubic feet per second (cfs). The addition of 300 to 480 cfs could have degrading impacts to the river. A river that has stabilized over time within a norm of variation could experience both severe stream bank and stream bed erosion. It must be considered what actions must be taken to protect downstream resources from these additional flows and if actions can be taken to minimize those flows. Severe erosion could negatively impact wildlife, plant, fish and human resources. Erosion could create local negative impacts as well as many other downstream impacts to varied and important natural resources as well as domestic water use and adjacent lands.
- Water quality issues as a result of an outlet to the Sheyenne River is also a concern that must be addressed. Average dissolved-solids in the Sheyenne River near Warwick currently run 480 milligrams per liter with a sulfate concentration of 96 milligrams per liter. With the addition of waters from the west end of Devils Lake, the Sheyenne River concentrations could change to 780 milligrams per liter of dissolved-solids with a concentration of 280 milligrams per liter of sulfates. What are the results of this change to the overall human and natural resource environment?
- Devils Lake has overflowed into the Sheyenne River at least twice in the past 4000 years. In a recent USGS report, their model says, assuming recent wet conditions will continue through 2015, that there is about a 2 percent chance Devils Lake will spill to the Sheyenne River before 2015 with no outlet. With a 300 cfs emergency outlet, the chance is reduced to less than 1 percent. Are the downstream and upper basin risks associated with this

Dedicated to the wise use of all natural resources

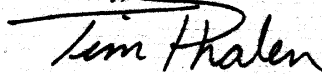
project worth gambling for a 2 percent chance at this time? What other measures are being used to address the flooding problems? Has there been extensive attempts to improve or implement comprehensive watershed management into the upper Devils Lake Basin to reduce the 2 percent chance of an over flow into the Sheyenne River? We would like to recommend that upper basin management be implemented in the form of holistic farm planning, maximum use of tools like CRP, WRP, and EWP, purchasing key areas for flood water management, utilizing wetland resources to the maximum potential, implementing storage on existing and new public lands, implement comprehensive management within the Chain of Lakes area, utilization of private lands habitat programs, perform best management practices on all lands, and investigate in stream storage to its maximum potential.

- It was common to hear about the three part approach to flood management in the Devils Lake Basin, yet this project is only concentrating on an outlet for flood control. If flows continue into the future as we have seen in the recent past it will be imperative to focus on all possible solutions. We should look at them as solutions and not as a way to appease certain interest groups. Upper basin management must be considered and implemented concurrently with outlet considerations if we hope to have overall flood management as a consideration.
- The fishery resource in Devils Lake is also a very important resource from a recreational and economic point of view. Caution should be taken to not reduce spawning habitats and to significantly alter water qualities for successful fisheries management. Devils Lake needs to have a wide range of fluctuating water levels for successful fishery reproduction.
- Construction of a Devils Lake outlet could cause irreversible harm to the Sheyenne River ecosystem. The unique assemblage of mussels, freshwater fish, aquatic invertebrates, and the riparian community could be severely compromised. It would seem prudent to implement a much more comprehensive approach to flood management by looking at a broad range of flood management alternatives. This should include a much more inclusive look at upper basin management which may reduce the overall impacts to the Sheyenne River complex.
- The solutions to Devils Lake flooding are very complicated and most of the solutions offered are responded to with anxiety or refusal. This problem cannot be solved with a single solution. The solutions must be comprehensive and understanding of the social issues both upstream and downstream. The Corps plan needs to address all solutions so not only one entity, be it upstream or downstream, takes on the resulting impact of the solution. We recommend that multi-purpose projects be implemented to address the flooding of the Devils Lake Basin. Projects should address the needs of agricultural profitability, economic diversity, wildlife habitat, recreation and tourism, and overall landscape function. This combination would provide much more palatable flood management and provide for economic opportunities. It would put some of the responsibility of water management in the watershed where the problem originates as well as addressing the issues of downstream acceptance. We recommend an aggressive plan to

implement a Devils Lake basin water management plan which provides water management and storage as well as agricultural profitability, wildlife habitats, and the facilitation of recreation and tourism which would be a catalyst for economic diversity. Upper basin management needs to be part of a successful plan for Devils Lake flood management and a tool for future economic stimulus.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink that reads "Tim Phalen". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

Tim Phalen, President
North Dakota Chapter of the Wildlife Society



May 4, 2002

LTG Robert Flowers, Commander
US Army Corps of Engineers
441 G Street Northwest
Washington, DC 20314-1000

Dale Frink, State Engineer
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, North Dakota 58505-0850

Chamber of Commerce
of Fargo Moorhead

(202 First Avenue North,
Moorhead)
P.O. Box 2443
Fargo, ND
58108-2443
218.233.1100
Fax 218.233.1200

www.fmchamber.com
info@fmchamber.com

Sen. Mark Dayton
United States Senate
346 Russell Building
Washington, DC 20510

Sen. Paul Wellstone
United States Senate
136 Hart Building
Washington, DC 20510

Rep. Collin Peterson
U.S. House of Representatives
2159 Rayburn Building
Washington, DC 20515

Sen. Kent Conrad
United States Senate
530 Hart Building
Washington, DC 20510

Sen. Byron Dorgan
United States Senate
713 Hart Building
Washington, DC 20510

Rep. Earl Pomeroy
U.S. House of Representatives
1110 Longworth Building
Washington, DC 20515

Dear General Flowers, State Engineer Frink, Senators Conrad, Dayton, Dorgan and Wellstone and Congressman Peterson and Pomeroy:

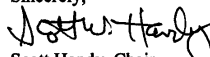
The Chamber of Commerce of Fargo Moorhead is a bi-state, regional chamber of commerce with more than 1,600 member firms that collectively employ more than 66,000 people. Our mission is unifying and advancing business and community interests in our region.

This letter is written to advocate for an outlet or other timely and appropriate solution to ongoing and increasingly serious "lake flooding problems" at Devils Lake (North Dakota). Devils Lake has experienced steadily-rising water levels since the late 1970s, with a very dramatic and damaging rise in the lake's water levels since 1993. Devils Lake has risen 24 feet since 1993, flooding about 75,000 deeded acres and requiring more than \$ 400 million to build dikes, relocate homes, maintain the region's transportation system and protect communities and other infrastructure.

At its current elevation of 1,447 feet above mean sea level, Devils Lake is less than 12 feet below its natural spill elevation to the Sheyenne River, a point at which it will cover almost 300,000 acres. Erosion at Tolna Coulee, Devils Lake's natural outlet, could release up to 2 million acre feet of water at that point, moving in an unregulated and untreated manner to the Sheyenne and Red Rivers. This would be a disaster affecting Devils Lake, eastern North Dakota, Minnesota and Manitoba, Canada.

We understand that the Corps of Engineers and State Water Commission have developed plans for temporary and permanent outlet solutions at Devils Lake, and are currently seeking public comment. We strongly encourage the Corps and Water Commission to work with federal, state and local government leaders to achieve a timely and appropriate solution to this urgent problem in our region.

Sincerely,


Scott Handy, Chair
CCFM Board of Directors


John Campbell
President/CEO

pc: Col. Robert Ball, US Army Engineer District, St. Paul
Governor John Hoeven, State of North Dakota
County Commissioner Joe Belford, Ramsey County, North Dakota

Unifying and advancing business and community interests in our region





118 Broadway, Suite 802
Fargo, ND 58102
Tel: 701-298-3373
Fax: 701-298-9097
www.audubon.org

6 May 2002

Mr. Dave Loss
Project Manager, Devils Lake PM-A
U. S. Army Corps of Engineers; St. Paul District
190 Fifth Street East
St. Paul, MN 55101-1638

Re: Draft Devils Lake, ND Integrated Planning Report and Environmental Impact Statement

Dear Mr. Loss:

Please accept this letter as Audubon/Dakota's written comments on the *Draft Integrated Planning Report and Environmental Impact Statement for Devil's Lake, North Dakota*. I write this not only from the perspective of my state-level office, but also as a resident of the Red River Basin, where some of the potential adverse "downstream impacts" could occur, should this proposed outlet move beyond an assessment phase.

Overall, although a great deal of time, money and effort have been expended on the *Draft Integrated Planning Report and Environmental Impact Statement for Devil's Lake, North Dakota*, the document raises multiple issues and leaves the ramifications of potential impacts unanswered in relation to the implementation of an outlet at Devils Lake. A brief summary of concerns is enumerated as follows:

1. Overall, is it not less than prudent to attempt to assess the impact of an outlet for which no operational plan has been developed? Specifically, "*These refinements [i.e., to the framework for an operational plan] may not be developed and fully coordinated prior to construction if construction is authorized for the fall of 2002*" (DEIS p. 1-6-16). It would seem mandatory to a thorough analysis of impacts for a \$97 million dollar project that an operational plan be defined prior to a go/no go decision in regard to a construction phase.
2. Wet Future Scenario: The DEIS utilizes an unprecedented and unsubstantiated "Wet Future Scenario" that "*repeats the climatic and hydrologic conditions for the seven highest inflow years in recent history (1993-1997) for three cycles, causing the lake to overflow*" (DEIS, 1-3-4). There is not scientific consensus for the hydrologic assessment used in the DEIS. In addition, it is not clear whether this same Wet Future Scenario is utilized to assess downstream impacts in the Sheyenne and Red Rivers.
3. Red River Water Quality/Quantity: Audubon/Dakota is involved with several interstate and international initiatives in the Red River Basin that strive to mitigate flood damage in the Red River, increase natural resource and habitat benefits, and contribute to strengthened communities and ecosystems. These efforts could potentially be compromised by outlet-

related impacts to the Red River of the North documented in the DEIS, particularly with regard to water quality and violations of the Boundary Waters Treaty of 1909 and of Minnesota water quality standards. For example, the DEIS states that *"The Pelican Lake outlet would have an effect on water quality in the Sheyenne and Red Rivers. Even under a constrained operation approach, the levels of many water quality constituents are increased by two to three times to concentrations just below the established water quality standards."* (p. 1-5-53). In addition, the DEIS estimates that downstream water users will incur *"increased softening costs and increased capital and operations costs if treatment or an alternative water supply is required..."* at up to \$3,304,000/year. (DEIS, 1-5-43).

4. Sheyenne River: The DEIS documents multiple negative impacts to the Sheyenne River, some of which include:
 - ⇒ bank flow capacity, and *"sudden and extreme fluctuations in flow"* (DEIS, 1-5-48);
 - ⇒ water quality (drinking water standard);
 - ⇒ altered geomorphology;
 - ⇒ detrimental reductions in aquatic resources due to habitat, with resultant changes in aquatic biota (DEIS, 1-5-53);
 - ⇒ negative impacts to farms that utilize Sheyenne and/or Red River water due to lower river water quality (DEIS, 1-5-42) and from streambank erosion.
 - ⇒ *"Increased risk of the transfer of biota"* (DEIS, 1-5-56).

The DEIS concludes that hydrologic changes in the Sheyenne River would be significant, and that *"erosion would be greater, summer nursery habitat will be less, unproductive habitat will increase in summer and fall, and change in flow magnitude between fall and winter will be greater...The changes in the aquatic community would persist for many years after outlet operation has ceased."* (DEIS, 1-5-55). It is not clear in the DEIS, however, how these impacts would be documented, mitigated, and what the cost would be. This is especially relevant when taken in the context of the new and burgeoning interest in "nature-based tourism" in North Dakota generally, and very specifically in the Sheyenne River Valley. The great potential of this ongoing initiative was documented in the recent "Marketplace 2002", hosted by Senator Kent Conrad and the North Dakota Department of Agriculture. Thus the impacts to the Sheyenne River from the proposed outlet may have an even greater ecological and economic impact than that considered in the DEIS.

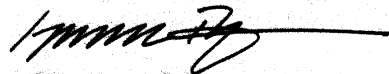
In summary, the DEIS delineates potential natural resource effects from the outlet as proposed to include impacts to water quality (*"degraded significantly"* on the Sheyenne River (DEIS, 1-5-63)); geomorphology; flow regimes; erosion; groundwater; aquatic and terrestrial communities; soil salinity; and downstream water use (*"downstream water users would experience adverse effects from the operation of an outlet requiring modification to their water supply systems and/or changes in land use practices. Changes in water quality constituents could affect the operation of the National Fish Hatchery."* DEIS, 1-5-65). In spite of all of these potential adverse impacts, the DEIS puts forward the suggestion that:

"Instead of relying on the probability analyses, one could view the construction of an outlet as an insurance policy, rather than an investment. That is, what is the relative risk of not building an outlet, versus building an outlet, and not needing it?"

It should be concluded that when a realistic assessment of the risks and impacts of the outlet project as proposed in the DEIS is considered, the benefits do not outweigh the costs of the undertaking, particularly when its efficacy is so unclear.

Thank you very much for the opportunity to provide comments on this Draft EIS. I will look forward to working together to find sustainable solutions that are environmentally and economically sound.

Yours truly,

A handwritten signature in black ink, appearing to read 'Genevieve Thompson', with a long horizontal line extending to the right.

~~Genevieve Thompson~~
VP and Executive Director, Audubon/Dakota

-----Original Message-----

From: donb.pit@wspan.com [mailto:donb.pit@wspan.com]

Sent: Tuesday, May 07, 2002 3:38 PM

To: Anfang, Robert A

Subject: Proposed Devils Lake outlet

Draining any water from Devils Lake into the Sheyenne River would be a serious mistake for many reasons - environmental, political and economic. The saline water of Devils Lake and its biota would be very harmful to the Sheyenne and Red River systems. Canada will certainly oppose any plan that would introduce water and biota from Devils Lake into the Red River and therefore Canada. Higher water levels in the Sheyenne and Red Rivers could also be an expensive problem. The best solution to the problem of high water in Devils Lake would be to stop the draining of surrounding wetlands into Devils Lake. The natural balance and flow of water in the Devils Lake basin is best left alone. Any attempts to further change the natural balance will only make things worse. Thank you.

Don Bry
1101 W 28th St 311
Minneapolis MN 55408

Telephone 612 871 6081
email donb.pit@wspan.com



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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JUL 19 2002

Ref: 8RA

Colonel Robert L. Ball, District Engineer
St. Paul District, Corps of Engineers
190 Fifth Street East
St. Paul, MN 55101-1638

RE: Amended Comments on Devils Lake, North
Dakota, Draft Integrated Planning Report
and Environmental Impact Statement

Dear Colonel Ball:

The U.S. Environmental Protection Agency (EPA), Region 8, provided comments to you concerning the above-referenced Report and Environmental Impact Statement (EIS) on May 7, 2002. Subsequent to issuing those comments, it has come to my attention that EPA provided comments on a section of the Corps' Draft EIS which may not have been appropriate at this time. In addition, because some confusion may have been created with the issuance and retraction of an EPA news advisory, it may be helpful to provide some clarification of our comments, particularly concerning the effectiveness of the outlet to prevent further flooding and the potential water-quality issues relative to a proposed outlet for Devils Lake. I would appreciate your considering the following as amendments to our comments provided May 7, 2002, and your including this letter in the official project files.

Regarding our initial comments relating to the cumulative effect of a proposed Missouri River inlet, Region 8 asks that the Corps of Engineers not consider our May 7 comments in this area. We understand that there are funding prohibitions regarding the study of an inlet contained in the Dakota Water Resources Act that was enacted in December 2000 as part of the Fiscal Year 2001 Consolidated Appropriations bill. EPA will defer to the Corps on whether the inlet should be evaluated as a reasonably foreseeable future action.

As you know, our May 7 comments noted EPA's concern regarding the effectiveness of the outlet to prevent further flooding. These comments simply repeated the Corps' concern in its draft EIS which questioned the effectiveness of the outlet. In order to facilitate a more thorough discussion of purpose and need on the proposed project, EPA will look forward to a more complete evaluation of the effectiveness of the various alternatives in the Corps' final EIS (or a supplemental or otherwise-revised EIS) on this project.



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Regarding our initial comments concerning potential impacts to downstream water quality, in our May 7, 2002, comment letter to the Corps, we raised concerns over potential exceedances of water-quality standards. We noted that additional information is needed to understand whether the diversion had the potential to cause exceedances of water-quality standards which would adversely affect drinking water, irrigation and aquatic life uses. I would also like to note that in its May 7, 2002, comments on the draft EIS, the North Dakota Department of Health indicated that it would "require the project sponsor to secure a permit for a Devils Lake discharge under Section 402 of the Clean Water Act. This permit cannot be issued if the discharge violates applicable State Water Quality Standards." We are confident that North Dakota will coordinate with the State of Minnesota and ensure that no permit is issued if it would cause a violation of North Dakota or Minnesota water quality standards.

In addition, with this letter, we extend an offer to work closely with you on the issues of downstream water quality. For example, we could assist in further study of the environmental impacts raised by the west end outlet versus an east end natural spill. EPA, Region 8 does have some specialized expertise in water quality areas that could be helpful. If either the Corps or the States of North Dakota and Minnesota request our help, it will be quickly provided. However, we will, to a very large extent, rely on both the North Dakota Department of Health and the Minnesota Pollution Control Agency and their analyses in this area, because they have primacy in implementation of water quality.

Again, we appreciate your consideration of this request to amend our comments as noted above and ask that this letter be inserted into the official project files. If you or your staff have questions regarding this letter, please contact me or Max Dodson, Assistant Regional Administrator for Ecosystems Protection, at 303-312-6598.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert E. Roberts", written over a horizontal line.

Robert E. Roberts
Regional Administrator

cc: Judith E. Ayres, AA, OIA
Thomas V. Skinner, RA, EPA, Region 5



NORTH DAKOTA DEPARTMENT OF HEALTH
Environmental Health Section

Location:

1200 Missouri Avenue
Bismarck, ND 58504-5264

Fax #:

701-328-5200

Mailing Address:

P.O. Box 5520
Bismarck, ND 58506-5520

July 12, 2002

Dave Loss
Project Management Branch
St. Paul District, Corps of Engineers
Army Corps of Engineers Centre
190 - 5th St. E
St. Paul, MN 55101-1638

Dear Mr. Loss:

This Department has initiated the permitting process for the Devils Lake Outlet. The tentative selected plan entails construction of a 300 cfs outlet from Pelican Lake to the Sheyenne River. North Dakota public policy as established by the North Dakota legislature and supported by the North Dakota Governor support construction of an outlet at Devils Lake. We want to help within the limits of the law to assist in having this project completed in a timely and effective manner.

The Department of Health will review the project under Section 401 and Section 402 of the Clean Water Act. Section 401 should not present any serious impediments to the project but should include an erosion control plan to minimize erosion during construction and operation, and a stormwater permit should also be applied for by the project sponsor.


Let me offer these final comments with respect to water quality concerns, relating to Section 402—NDPDES permit, the ND antidegradation statute and downstream concerns. It would be inappropriate for the Department to prejudge any permit application or antidegradation concerns without first completing the hearing process. However, I can offer some guidance and comments.

- In our discussions with EPA, they have indicated that they do not intend to assert jurisdiction under Section 402 and will defer to the State on that issue.
- We believe that an operating plan can be designed to accommodate an outlet and meet downstream water quality concerns.

In short, the State is supportive of the project and will do all we can to assist the Corps in meeting water quality concerns in a timely manner while maintaining the effectiveness of the project.

Should you have any questions, I can be reached at 701-328-5152.

Sincerely,



L. David Glatt, Chief
Environmental Health Section

LDG:MTS:cc

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